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July 14, 2005

Via UPS

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Re: DOJ No. 90-11-2-06089, U.S. v. Buckeye Egg Farm, L.P., et al.,
United States District Court, Northern District of Ohio, Western Division,
Civil Action No. 3:03CV7681

Dear Ladies and Gentlemen:

As required in the Consent Decree in United States v. Buckeye Egg Farm, L.P., et al., enclosed is Ohio Fresh Eggs, LLC's Revised Particulate Matter Emissions Control Design and Implementation Plan for Ohio Fresh Eggs, LLC's facilities in Croton, Mt. Victory, and Marseilles, Ohio. Also enclosed is Ohio Fresh Eggs' Certification for the Revised Particulate Control Plan.

Should you need any additional information, please contact me.

Very truly yours,

KEATING MUETHING & KLEKAMP PLL

By: Brian M. Babb
Brian M. Babb

Enclosures

cc: Mr. Donald C. Hershey
Dr. Albert J. Heber
Mr. Richard L. Campbell

1465732.1

REVISED

Particulate Matter Emissions Control Design and Implementation Plan

for

Ohio Fresh Eggs, LLC's Croton, Mt. Victory, and Marseilles, Ohio Facilities

JULY 2005

Submitted by:

Ohio Fresh Eggs, LLC
11212 Croton Road
Croton, Ohio 43013
740/893-7200 (telephone)
740/893-7204 (fax)

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EXHIBITS

LIST OF FIGURES

SECTION I. INTRODUCTION

Ohio Fresh Eggs, LLC owns and operates commercial egg production facilities in Licking County, Ohio ("Croton Facilities"), Wyandott County, Ohio ("Marseilles Facilities"), and Hardin County, Ohio ("Mt. Victory Facilities"). One of the emissions subject to testing and control measures under the Consent Decree in United States vs. Buckeye Egg Farm, L.P. et al, is Particulate Matter (PM), which is generated from belt battery and deep-pit layer barns at these Facilities. The layer barns at the Croton Facilities are under a defined schedule to be converted from "deep-pit" manure layer barns to barns with "belt battery" manure handling systems, which reduces ammonia emissions, but has a minimal reduction ability on PM emissions due to the close proximity of birds to the exhaust fans in the layer barns. Ohio Fresh Eggs proposes to test the effectiveness of two separate PM control measures to reduce PM emissions from the belt battery and deep-pit layer barns at the Croton, Mt. Victory, and Marseilles Facilities.

Ohio Fresh Eggs intends to test the effectiveness of a Fan Mounted Filter Media and a Electrostatic Space Charge System (ESCS) to evaluate their ability to reduce PM emissions from belt battery and deep-pit layer barns at the Croton and Mt. Victory Facilities, respectively. If test results demonstrate that either of these control measures are effective in reducing PM levels, and are operationally and economically feasible, that control measure will be used on an ongoing basis to reduce PM emissions in all belt battery and deep-pit layer barns at the Croton, Mt. Victory and Marseilles Facilities, in accordance with the requirements of Attachment A.

This Proposed Particulate Matter Emissions Control and Implementation Plan sets forth in detail how Ohio Fresh Eggs intends to test and verify the control efficiency of these PM control measures.

SECTION II. BACKGROUND

Generally, depending on the barn size, each deep-pit layer barn at the Croton, Mt. Victory and Marseilles Facilities, when at full capacity, houses either 68,885 or 97,627, 163,859 or 166,780 layer chickens, respectively. The primary sources of particulate matter emissions from the layer barns are believed to be the chickens, manure piles, feed fines and feathers from the layers. Ventilation fans are used in the barns to maintain proper ventilation rate and control temperature, and ostensibly facilitates the emission of particulate matter from the layer barns. The layers excrete manure, which is accumulated on concrete floors beneath the layer cages in the deep-pit layer barns. The manure collected in the pits in this type of layer barn is removed semi-annually, or during a change over in layers. In contrast, the belt battery layer barns each house approximately 102,098 or 167,000 birds, and manure is removed via covered conveyor belts on a daily basis for storage in separate manure storage buildings. Forced air is directed on the manure conveyer belts to help reduce the moisture content of the manure prior to storage in the manure storage buildings, which are emptied at least annually.

SECTION III. OVERVIEW

Attachment A to the Consent Decree requires the submission of a Revised Proposed Particulate Matter Emissions Control Design and Implementation Plan to the United States Environmental Protection Agency for review and approval. Ohio Fresh Eggs intends to test the effectiveness of two separate emission control measures, to reduce PM emissions from the belt battery layer barns at the Croton Facilities and deep -pit layer barns at Mt. Victory Facilities.

Initially, the control efficiency of the Fan Mounted Filter Media particulate control alternative will be evaluated during a 7-day test on one (1) fan at a belt battery layer barn at the Croton Facility. The collection efficiency is expected to be in the 90 percentile range, however, what must be determined is the ability of the filter to maintain a sufficient air flow capacity and the frequency of filter cleaning. If test results show the Filter Media is effective at reducing emissions and is feasible from an operational standpoint, the Filter Media will be installed on a trial basis, in one fully housed, belt battery layer barn at the Croton Facility, where OFE will evaluate its performance and collect emission data to verify yearly emission rates over a six-month period using the Silsoe Secondary Test Method. If the Filter Media is effective at reducing PM emissions with the existing exhaust fans, this control measure will be implemented in the belt battery and deep pit layer barns at the Croton, Mt. Victory, and Marseilles Facilities in accordance with the requirements of Attachment A.

If the 7-day test of the Filter Media shows it to be ineffective in controlling PM emissions or infeasible to use, an Electrostatic Space Charge System (ESCS) will be subject to a 7-day test to determine its efficiency in reducing PM emissions. If this test shows the ESCS to be effective, this control measure will be tested in one fully housed, belt battery layer barn at the Croton Facility using the Silsoe Secondary Test Method. If these test results demonstrate the selected particulate control adequately reduce PM levels, the particulate control measure will be implemented in the belt battery and deep pit layer barns at the Croton, Mt. Victory, and Marseilles Facilities, in accordance with the requirements of Attachment A of the Consent Decree.

SECTION IV. PARTICULATE MATTER CONTROL SYSTEMS DESCRIPTIONS

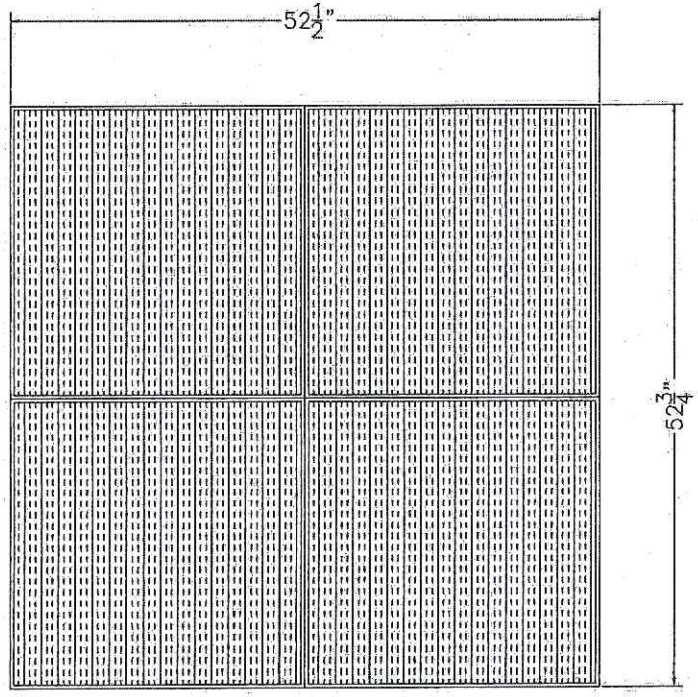
A. Particulate Control Alternatives

1. *Option 1 – Fan Mounted Filter Media*

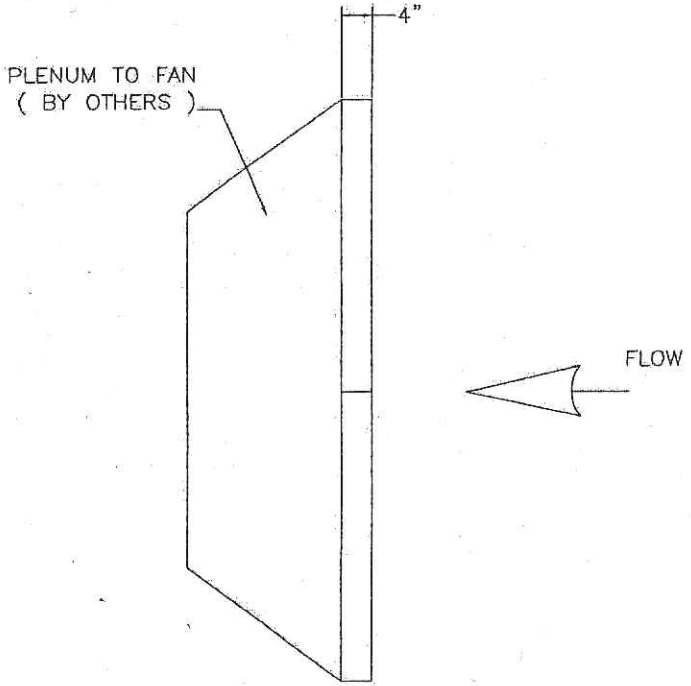
(a) Description of Control Measure

A high capacity Fan Mounted Filter Media will be installed on the inlet side of one layer barn discharge fan at the Croton Facilities. The Filter Media is used in typical PM control applications and is designed and fabricated by Airotech Environmental Inc., the manufacturer of which is located in Venice, Florida. The Filter Media is 6'6" x 6'6" in size, and will consist of 500 square feet of high flow spun bound polyester mounted in a galvanized steel housing. The media will have a flow capacity of about 25,000 air cubic feet per minute (acfm) at 0.5 inches water column and filter out particulates down to 3 microns in size. The Filter Media is expected

to be durable enough for this application and is washable. A schematic of the Fan Mounted Filter Media is shown in Figure 1.



FRONT ELEVATION



SIDE ELEVATION

Airotech Environmental, Inc. Venice, Florida	DRAWN BY: TMG DATE: 7-13-05 DWG.:	CUSTOMER: OHIO FRESH EGG	TITLE: FILTER ASSEMBLY COUP VENTILATION FAN

(b) Fan Mounted Filter Media Use

Subject to completion of the 7-day test results of the effectiveness of Filter Media in reducing PM emissions while maintaining air flow ventilation capacity at 75% of unfiltered capacity and resolving any associated filter maintenance issues, obtaining EPA approval, and the manufacturer's delivery schedule, Ohio Fresh Eggs will install and test the Fan Mounted Filter Media on one (1) belt battery layer barn at the Croton Facility for a period of six (6) months using the Silsoe Secondary Test Method. Installation of the Fan Mounted Filter Media will commence within forty-five (45) days of EPA's approval. The manufacturer has indicated the Filter Media can be delivered within 20 working days of authorization. Should the Secondary Method Test results confirm that use of the Fan Mounted Filter Media in the belt battery layer barns is operationally feasible and satisfactory PM reductions are achieved, within 60 days of EPA approval, the installation of the Fan Mounted Filter Media will commence at the belt battery and deep -pit layer barns, in accordance with the requirements of Attachment A of the Consent Decree.

(c) Summary of Fan Mounted Filter Media Costs

The cost to purchase and install the Fan Mounted Filter Media is estimated at $2,000 per fan assuming a > 90% efficiency. Due to variations in fan operation and because certain fans operate more frequently than other exhaust fans, the Filter Media may only need to be installed on one half of the fans in a layer barn to effectively reduce PM emissions. The cost for 24 exhaust fans in one layer barn to be equipped with this PM control is estimated at $48,000. The estimated annual labor cost to maintain the Filter Media in the layer barns at the Croton Facility is about $32,000 based on using one full time maintenance person.

(d) Description of Expected Emissions Reduction

Test data from the manufacturer shows the Filter Media will remove > 99% of particulates in the 3 micron and greater size ranges. A copy of this information is attached for reference in Exhibit 2. Because of the unknown operational limits (i.e. flow restriction limits) of the Filter Media, the manufacturer cannot provide any additional information about the effectiveness of the use of the Filter Media in reducing PM emissions on a long -term basis at commercial egg-laying facilities.

2. ***Option 2 – Electrostatic Space Charge System (ESCS)***

Ohio Fresh Eggs proposes to test as a particulate control an Electrostatic Space Charge System (ESCS).

(a) Description of Control Measure

The ESCS is manufactured by Baumgartner Environics, Inc., which is located in Olivia, Minnesota. The operating principle of the ESCS is somewhat different than an electrostatic precipitator (ESP) used in industrial applications for PM control. An ESP has electrodes which impart a charge to particles as they move through the charging field and are attracted to the grounded collection plates. In the ESCS application, the charge system is high voltage 25–30k Vdc, 2 mA capacity that is used to supply a high voltage cable with a 24 ion discharge per foot,

which will be located in each high rise layer house. The charged particles are attracted to the ground and building, which will act as PM collection surfaces. The ESCS system will have four high voltage ion discharge cables located across the width of the layer house and running the entire length of the layer house. The ion generators will be located near ceiling level close to the manure slot discharges. As the PM flows through the charging zone the ion generators impart a negative ion discharge to the PM particles causing them to be attracted to the nearest grounded surface. These charged particles should be attracted to the grounded surface and drop out. Other variables which can impact collection efficiency are particle density and the air stream velocity. Reportedly, this system has been installed and successfully operated at some broiler house facilities, see Appendix A. A schematic of the ESCS is shown in Figure 2. Production information form the manufacturer is attached for reference in Exhibit 3.

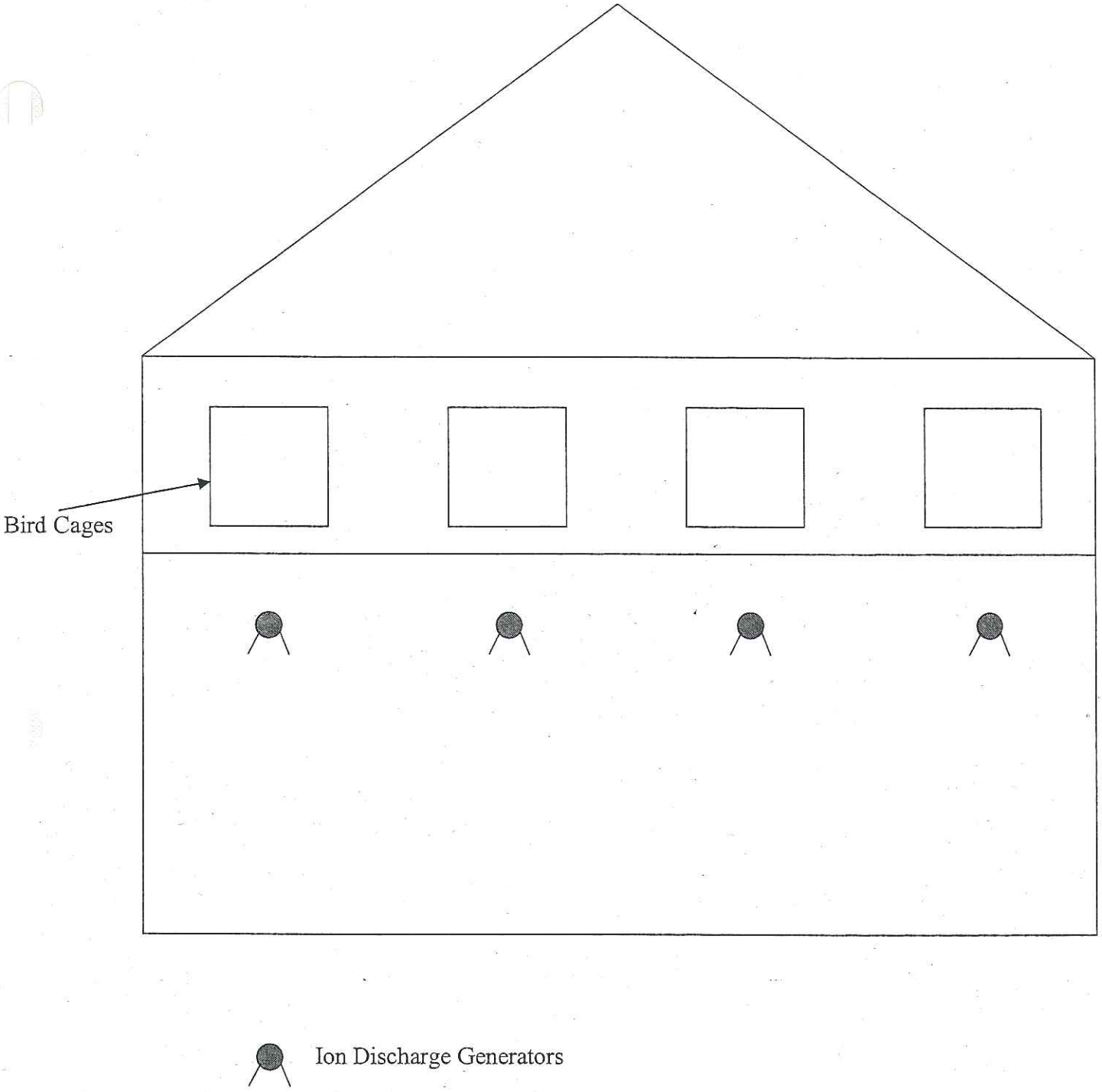
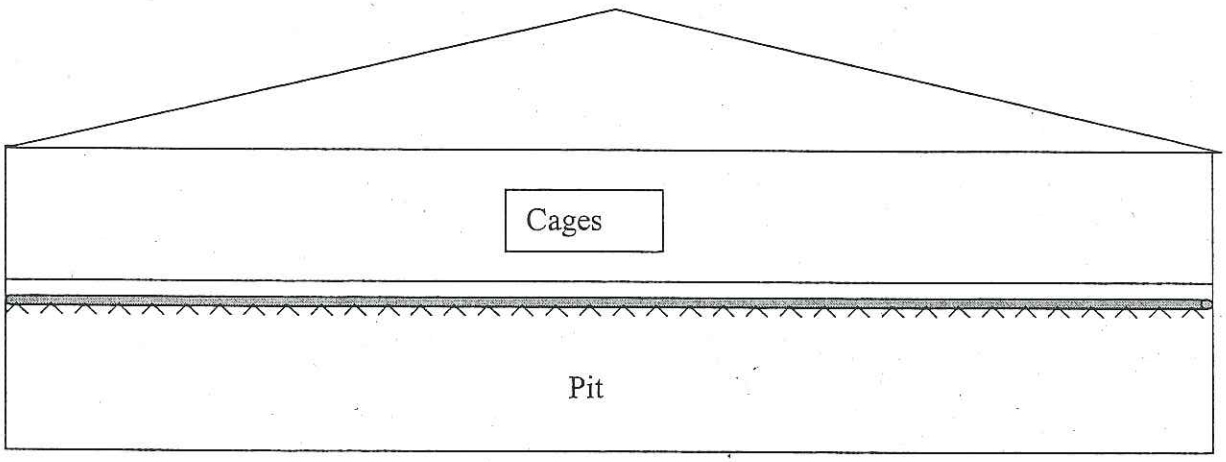


Figure 2(a) Electrostatic Space Control System (Front View)



4 Ion Discharge Generators running through the entire length of the building.

Figure 2(b) Electrostatic Space Control System (Side View)

(b) Electrostatic Space Charge System Use

Subject to EPA's approval of the test results, Ohio Fresh Eggs intends to install and test an ESCS on either one (1) belt battery layer barn at the Croton Facility or one (1) deep -pit layer barn at the Mt. Victory Facility for a period of six (6) months using the Silsoe Secondary Test Method. Installation of the ESCS will commence within forty-five (45) days of EPA's approval. Should the Secondary Method Test results confirm that use of the ESCS reduces PM emissions in the layer barns to satisfactory levels and is economically feasible, within 60 days of EPA's approval, the installation of the ESCS will commence at the layer barns, in accordance with the requirements of Attachment A of the Consent Decree.

(c) Summary of ESCS Costs

The cost to purchase and install the ESCS at either one Croton layer barn or one Mt. Victory layer barn is estimated at $50,215. This cost would include all required components and installation. The estimated annual labor cost to maintain the ESCS at the layer barn at either the Croton Facility or Mt. Victory Facility is expected to be about $4,500 based on a once per week cleaning. Maintenance of system components is estimated at $2,000 per year.

(d) Description of Expected Emissions Reduction

There is limited test data available concerning the use of the ESCS. However, the ESCS was tested at some broiler house applications and had measured PM reductions in the 55- 60 % range. An ASAE paper presentation on the use of ECSC systems in broiler production houses is presented in Appendix A.

3. ***Contract, Purchase and Implementation Schedule***

(a) The Filter Media is available through Airotech Environmental Inc.

According to Airotech, the Filter Media is available for commercial use, but must be custom made for the size application, subject to purchase order approval and shipping time. The installation of the Filter Media and fan retrofits will be performed by Ohio Fresh Eggs or its contractors, and will begin within 60 days of EPA's approval of the control measure.

(b) The ESCS is available through Baumgartner Environics Inc. (BEI).

According to BEI, the ESCS is available for commercial use, but must be custom made for the size application, subject to purchase order approval and shipping time. The installation of the ESCS will be performed by BEI and will begin within 60 days of EPA's approval of the control measures.

4. ***Reporting and Recordkeeping***

As required by Attachment A of the Consent Decree, Ohio Fresh Eggs will timely submit the 7-day Filter Media and/or ESCS PM test results to EPA for review and approval. During the Secondary Test Method period, Ohio Fresh Eggs will maintain an Operation and Maintenance Log to document maintenance, repair, and adjustments to the PM control alternatives at the

Croton Facility. A sample Operation and Maintenance Log is attached as Exhibits 4 and 5. These Logs will be reviewed on a weekly basis to ensure the PM Control is properly maintained and operated in the belt battery layer barns and that the other approved emissions controls are consistently and properly used. These Logs will be summarized in the quarterly reports that are submitted to EPA. The quarterly reports will summarize the status of the PM emission control tests and implementation.

B. PM Removal Efficiency Testing

Ohio Fresh Eggs intends to test of the removal efficiency of each of the approved emission controls, in accordance with the requirements of Attachment A of the Consent Decree. The following testing protocol will be used.

1. *Particulate Test Protocol*

Within forty-five (45) days of EPA's approval of the revised PM Emission Control Plan, Ohio Fresh Eggs will install a Filter Media prototype on a ventilation fan in a layer barn. A 7-day test will be conducted consistent with the Quality Assurance Project Plan, as set forth in Exhibit 2 to Attachment A of the Consent Decree, and within the time frames set forth in Attachment A to the Consent Decree. Test results will be submitted to EPA as required under Attachment A to the Consent Decree.

To measure system removal efficiency of the Filter Media , the fan will be operated continuously and measurements will be conducted such that any difference between inlet and outlet PM concentrations can be quantitatively determined to derive the PM control efficiency of the selected PM control measures. The sample integration time of the TEOM samplers will be twenty four hours per test. It is anticipated that the test will be conducted for approximately seven (7) days to assess any variability in control efficiency as the control systems accumulates PM.

2. *Secondary Test Method Protocol*

(a) Croton and Mt. Victory Facilities

Subject to EPA's approval of the PM removal efficiency results, Secondary Test Method of PM emissions in layer barns will be conducted by Purdue University consistent with the Quality Assurance Project Plan, as set forth in Exhibit 2 to Attachment A of the Consent Decree. The Secondary Test Method will be performed in either layer barn No. 2 at the Croton Facilities, which is a belt battery layer barn, or deep –pit layer barn No. 2 at the Mt. Victory Facilities.

Quality Assurance/Quality Control

The project will have in place documented quality assurance/quality control (QA/QC) processes before data is collected. The QA/QC procedures will be based on EPA guidelines and implemented by each laboratory and during each sampling and measurement activity. The following is an outline about the QA/QC procedures:

General - Each laboratory will follow all protocols for this project and will utilize EPA approved standards, whenever they are available. Data will be analyzed using custom software (CAPECAB "Computations of Air Pollutant Emissions from Confined Animal Buildings) developed by the RSLS Group of Companies (Calgary, Alberta). Quality assurance and quality control at each mobile laboratory will include the use of properly maintained and reliable instrumentation, ready supply of spare parts, approved analytical methodologies and standard operation procedures, external validation of data, well-trained analysts, field blanks, electrical backups, audits, and documentation. Logs will be maintained for each instrument. The procedures contained in the "Quality Assurance Handbook for Air Pollution Measurement Systems," EPA 600/R-94/038C will serve as the basis for performance of all testing and related work activities. A detailed QA/QC plan, based on EPA guidelines, will be provided upon request.

Sampling - Chain of custody documentation will be used for samples, e.g., PM, etc., that are collected and taken off-site. Logged data files in the PC for the previous day will be checked the next business day to find and correct problems. TEOM vacuum lines in cold areas will be heated to prevent condensation.

Calibrations - The TEOM PM10 monitors will be verified using FRM method PM_{10} samplers operated alongside.

Analytical Methods - Approved analytical methods will be used in all experiments. All analytical equipment will be properly maintained, tested regularly to ensure they are functioning properly, external validation of data will be done, and trained analysts will run all equipment. On-line results of all the continuous measurement variables will be displayed on a PC screen. Lab personnel will check the on-line display at least twice daily by either remote or on-site access. All electronic instrumentation will be protected by uninterruptible power systems.

Data Reduction and Reporting - On-screen data will be viewed on-line and downloaded regularly. Initial processing of measurement data will be done each week using CAPECAB. In addition to computer storage, raw tables or graphs will be printed out and stored in a loose-leaf notebook in the laboratory. Final data processing will occur following each test.

Data Analysis, Assessment, and Interpretation

The layer barn emission rates will be determined by multiplying concentration data (mass/volume) by barn ventilation rate (volume/time). Since the emission data will span roughly six months, they will reveal minimums and maximums as well as trends that may be related to season, animal age, climate, and management.

As data is collected in real-time by the data acquisition computer, it will be converted to binary format and transferred automatically to a server at Purdue University. The software program CAPECAB allows immediate access to the data to visualize and inspect the data. CAPECAB also facilitates data validation via interactive and automatic flagging. It performs interpolations between concentration measurements, which coupled with continuous airflow measurements, allows the creation of an emission value every minute. From this 60-s database, the program creates averages over user-specified intervals (5-min, 60-min, 24-h, weekly, etc.).

Thus, the following day, CAPECAB can create a report of hourly averages for the previous day. By the end of each week, data will be summarized for the previous week.

C. Implementation

Subject to EPA's approval of the results from the Secondary Test Method, Ohio Fresh Eggs will commence the installation and operation of the selected PM control measures, in accordance with the timetable and terms set forth in Attachment A of the Consent Decree, in all operational layer barns at the Croton, Mt. Victory and Marseilles Facilities. Ohio Fresh Eggs will retrofit such barns with the selected PM control measure. The installation of the PM control measures will be completed in such barns on a sequential basis at an average rate of one barn every thirty (30) days.

SECTION V. CONCLUSION

Ohio Fresh Eggs proposes to test the effectiveness of several PM control measures to reduce PM emissions from its belt battery and deep -pit layer barns. Should the results of the Secondary Test Method confirm that selected PM controls emission controls are effective in reducing PM emissions, and are economically feasible, the selected PM Controls will be installed and operated at the layer barns in accordance with the requirements of Attachment A of the Consent Decree.

1474117.1

CERTIFICATION

I certify under penalty of law that this document and any attachments to it were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing and willful submission of a materially false statement.

OHIO FRESH EGGS, LLC

Donald C. Hershey

Donald C. Hershey, Manager

1232938.1

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF OHIO, WESTERN DIVISION

UNITED STATES OF AMERICA,	:	–
Plaintiff,	:	**CIVIL ACTION NO.** 3:03 CV 7681
vs.	:	**(Hon. David A. Katz)**
BUCKEYE EGG FARM, L.P., CROTON FARM, LLC, AND ANTON POHLMANN,	:	
Defendants.	:	

CONSENT DECREE

Plaintiff United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), has filed a Complaint and an Amended Complaint in this action, alleging that Defendants violated Section(s) 113, 114, 165, 502 and 503 of the Clean Air Act ("CAA"), 42 U.S.C. §§ 7413, 7414, 7475, 7661a, & 7661b, including violations of 40 C.F.R. Part 52, Subpart A, Section 52.21, and the Ohio State Implementation Plan (Ohio SIP), codified at 40 C.F.R. Part 52, Subpart KK (40 C.F.R. §§ 52.1870-52.1919). The Amended Complaint alleges that these violations occurred and are occurring at the Defendants' commercial egg production Locations in Ohio, specifically, (i) the Croton Location, located in Licking County, Croton, Ohio, (ii) the Marseilles Location, located in Wyandot County, Harpster, Ohio, and (iii) the Mt. Victory Location, located in Hardin County, LaRue, Ohio (collectively, "the Locations").

Defendant Buckeye Egg Farm, L.P. ("Buckeye") is a limited partnership organized under the laws of Delaware, and is a continuation of the partnership originally known as AgriGeneral Company, L.P. Defendant Croton Farm LLC ("Croton Farm") is a limited liability corporation

organized in Delaware on October 1, 1997 and has a one percent ownership interest in, and is the general partner of, Buckeye Egg Farm, L.P. Croton Farm LLC has two members: Anton Pohlmann and Poultry Investors Group, Inc. Poultry Investors Group, Inc. is an Ohio corporation and Anton Pohlmann is its sole shareholder. Defendant Anton Pohlmann has a ninety-nine percent ownership interest in, and is the limited partner of, Buckeye Egg Farm, L.P., and owns or owned the properties and buildings utilized by Buckeye for the commercial production of eggs at its Ohio Locations. These properties and buildings are or were leased to Buckeye.

Defendants do not admit any fact, interpretation or application of law, violation, or liability to the United States or jurisdiction except to the extent necessary to ensure enforcement of this Consent Decree arising out of the transactions or occurrences alleged in the Amended Complaint.

The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest. NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I, below, and with the with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. For purposes of this Consent Decree, Defendants agree that this Court has jurisdiction over the subject matter of this action, pursuant to 28 U.S.C. §§ 1331, 1345, and 1355, and Section 113(b) of the CAA, 42 U.S.C. § 7413(b), and over the Parties. Venue lies in this District pursuant to 28 U.S.C. § 1391 and 1395, and Section 113(b) of the CAA, 42 U.S.C.

§ 7413(b), because the Marseilles and the Mt. Victory Locations, two of the three Locations at which the violations alleged herein occurred, are located in the Western Division of this District. For purposes of this Decree,or any action to enforce this Decree, Defendants consent to the Court's jurisdiction over this Decree or such action and over Defendants, and consent to venue in this judicial district.

2. For purposes of this Consent Decree, Defendants agree that the Amended Complaint states claims upon which relief may be granted pursuant to Sections 113, 114, 165, 502 and 503 of the CAA, 42 U.S.C. §§ 7413, 7414, 7475, 7661a, & 7661b. Defendants waive service of the Amended Complaint and accept same for purposes of entering into this Consent Decree.

3. Notice of the commencement of this action has been given to the State of Ohio as required under Section 113(b) of the CAA, 42 U.S.C. § 7413(b).

II. PARTIES BOUND AND NOTICE OF TRANSFER

4. The provisions of this Consent Decree shall apply to and be binding upon the United States and upon Defendants and their partners, officers, agents, successors, assigns, and all persons acting on their behalf.

5. Defendants have sold the assets comprising the property at the Croton Location to Ohio Fresh Eggs, LLC ("Ohio Fresh"). Defendants are also currently negotiating the sale of assets comprising the Mt. Victory and Marseilles Locations to Ohio Fresh. These transfers will be conditioned upon Ohio Fresh's agreement to undertake the obligations required by this Decree, including the requirements relating to the Croton Location, and to impose these same obligations upon any subsequent transferees of these properties, as provided in a written agreement between Defendants and Ohio Fresh, enforceable by the United States as a third-party beneficiary of such agreement. This Consent Decree remains enforceable against Defendants

regardless of these transfers, as set forth in Paragraphs 6 and 7, infra, although the Parties recognize that Defendants and Ohio Fresh intend to enter into certain indemnification agreements between themselves.

6. Unless otherwise agreed to in writing by EPA, no change in ownership, corporate, or partnership status relating to any of the Buckeye Locations, or conveyance of title, easement, or other interest in the Buckeye Locations, including but not limited to any lease or transfer of assets or real or personal property, will alter the Defendants' obligation to comply with the requirements of this Consent Decree or to ensure compliance by any successor or assign of the Defendants, regardless of whether the Defendants continue to exist following the transaction.

7. It shall be Defendants' obligation to require compliance by any person purchasing, leasing or operating any of the Buckeye Locations with the relevant portions of the Consent Decree, and to reserve the right to monitor compliance by that person. Defendants shall remain liable to EPA for any stipulated penalties that may accrue due to any non-compliance by that person. In all cases it shall be Defendants' obligation with respect to any portion of the Buckeye Locations conveyed or leased to ensure access to property and information pursuant to Section X of this Consent Decree. Any purchase and sale agreement or lease or other instrument of conveyance for the Buckeye Locations shall contain a notice that the Buckeye Location at issue is the subject of this Consent Decree, setting forth the case caption and index number, and the Court having jurisdiction, and a memorandum of agreement setting forth this notice shall be filed with the local property recorder's office in connection with the consummation of any such sale or lease.

8. Except with respect to the anticipated transfer of the Marseilles and Mt. Victory locations to Ohio Fresh, Defendants, in addition to any notification required by the CAA, shall

notify EPA, the United States Attorney for the Northern District of Ohio, Western Division, and the United States Department of Justice, in accordance with Section XVIII of this Decree (Notices), at least thirty (30) days prior to a change in the operational and/or ownership control of any portion of any of the Buckeye Locations, including but not limited to the conveyance of title, easement, or other interest, including a leasehold interest. This notice shall also include a description of both the current and expected future activities on that portion of the Buckeye Location or Locations to be conveyed, leased, or otherwise alienated. At least fifteen (15) days prior to such transfer, Defendants shall provide a copy of this Consent Decree to the proposed transferee. Any transfer of ownership or operation of the Locations without complying with this Paragraph constitutes a violation of this Decree.

9. Defendants shall provide a copy of this Consent Decree to all officers, management employees, and agents whose duties might reasonably include compliance with any provision of this Decree. Defendants shall provide to each contractor hired to perform any of the Work (as defined herein) required by this Consent Decree or its Attachments (and to each person representing the Defendants with respect to the Work), a copy of all Sections of this Decree and/or Attachments relevant to the contractor's employment, and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree and its Attachments. Defendants or their contractors shall provide written notice of the Consent Decree to all subcontractors hired to perform any portion of the Work required by this Consent Decree. Defendants nonetheless shall be responsible for ensuring that their contractors and subcontractors perform the Work contemplated herein in accordance with this Consent Decree. Nothing in this Consent Decree shall be construed to prevent Defendants from enforcing any contractual obligations of their contractors or subcontractors.

10. In any action to enforce this Consent Decree, Defendants shall not raise as a defense the failure by any of their officers, directors, employees, agents, or contractors to take any action necessary to comply with the provisions of this Consent Decree, subject to any claim of force majeure under Section XIII (Force Majeure).

III. DEFINITIONS

11. Terms used in this Consent Decree that are defined in the CAA or in regulations promulgated pursuant to the CAA shall have the meanings assigned to them in the CAA or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

"Buckeye Location" shall mean any one of Defendants' commercial egg production locations in Ohio, specifically, the Croton Location, located in Licking County, Croton, Ohio, the Marseilles Location, located in Wyandot County, Harpster, Ohio, and the Mt. Victory Location, located in Hardin County, LaRue, Ohio (collectively, "the Buckeye Locations").

"Compliance Schedule" means the document attached hereto as Attachment A;

"Complaint" or "Amended Complaint" shall mean the complaint, as amended, filed by the United States in this action;

"Consent Decree" or "Decree shall mean this Decree and all appendices attached hereto (listed in Section XXV);

"Day" shall mean a calendar day unless expressly stated to be a working day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day;

"Defendant(s)" shall mean Buckeye Egg Farm, L.P., Croton Farm LLC, and Anton Pohlmann;

"EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States;

"Interest" shall mean interest at the rate established by the Secretary of Treasury pursuant to 31 U.S.C. § 3717. Such interest shall be compounded annually on October 1st of each year."Notify" and "Submit" and other terms signifying an obligation to transmit or communicate documents and information mean to deliver in person, deposit in the United States mail, or dispatch by express courier not later than the day that such transmission or communication is required by this Consent Decree. Should such day be a weekend day or a federal holiday, the delivery, deposit, or dispatch shall be due on the next working day;

"Paragraph" shall mean a portion of this Decree identified by an Arabic numeral;

"Parties" shall mean the United States and Defendants;

"Section" shall mean a portion of this Decree identified by a Roman numeral;

"State" shall mean the State of Ohio;

"United States" shall mean the United States of America, acting on behalf of EPA;

"Work" shall mean all activities Defendants are required to perform under this Consent Decree, together with its Attachments, except those required by Section XV (Information Retention).

IV. GENERAL PROVISIONS

12. Compliance with Applicable Law: All Work undertaken by Defendants pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal, state and local laws, permits, and regulations not addressed in this Consent Decree, including, without limitation, federal and state regulations governing the generation, treatment, storage, transport, and disposal of hazardous waste.

13. Permits: Where any portion of the Work requires a federal, state, or local permit or approval not addressed in this Consent Decree, Defendants shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

14. The Defendants may seek relief under the provisions of Section XIII (Force Majeure) of this Consent Decree for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining any permit required for the Work, provided that Defendants have used due diligence in seeking to obtain such permit .

15. This Consent Decree is not, and shall not be construed to be, a permit or modification of a permit issued pursuant to any federal, state, or local statute, ordinance, or regulation.

V. PERFORMANCE OF THE WORK BY DEFENDANTS

16. Defendants shall comply with the provisions, terms, and schedules for operating and upgrading the Buckeye Locations as set forth in Attachment A, which is incorporated by reference into this Consent Decree.

17. If, prior to Defendants' Request for an Acknowledgment of Completion, pursuant to Section IX of this Consent Decree, EPA determines that Defendants' performance of the Work is inadequate or incomplete, EPA will notify Defendants in writing of the activities that must be undertaken to correct or complete the Work, and will set forth in the notice a reasonable period for Defendants to satisfactorily correct or complete the Work. Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to any right provided in this Consent Decree to invoke the dispute resolution procedures set forth in Section XIV (Dispute Resolution).

VI. SUBMISSIONS REQUIRING EPA APPROVAL

18. Approval of Deliverables. After review of any plan, report, or other item that is required to be submitted pursuant to this Consent Decree, EPA shall, in writing: (a) approve the submission; (b) approve the submission upon specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission or (e) any combination of the above.

19. If the submission is approved pursuant to Paragraph 18(a), Defendants shall take all actions required by the plan, report, or other item, as approved. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 18(b) or (c), Defendants shall, upon written direction of EPA take all actions required by the approved plan, report, or other items that EPA determines are technically severable from any disapproved portions, subject to Defendants' right to dispute only any conditions imposed by EPA or any disapproved portions under Section XIV of this Decree (Dispute Resolution).

20. If the submission is disapproved in whole or in part pursuant to Paragraph 18(c) or (d), Defendants shall, within forty-five (45) days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval. Any Stipulated Penalties applicable to the original submission as provided in Section XII of this Decree shall accrue during the forty-five (45)-day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Defendants' obligations under this Decree, Defendants shall be deemed to have failed to submit a plan, and the Stipulated Penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

21. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA may again require Defendants to correct any deficiencies, in accordance with this Section , subject to Defendants' right to invoke Dispute Resolution and the right of EPA to seek Stipulated Penalties as provided in the preceding Paragraphs.

22. All plans, reports, and other items required to be submitted to EPA under this Consent Decree shall, upon written approval by EPA, be enforceable under this Consent Decree. In the event EPA approves or conditions a portion of a plan, report, or other item required to be submitted to EPA under this Consent Decree, such approval shall be in writing, and the approved, modified or conditioned portion shall be enforceable under this Consent Decree.

VII. REPORTING REQUIREMENTS

23. Defendants shall submit quarterly reports as set forth in Section III of Attachment A hereto, disclosing the status and progress of Work under this Consent Decree.

a. If Defendants violate, or have reason to believe that they may violate, any requirement of this Consent Decree, Defendants shall notify the United States of such violation and its likely duration in writing within ten (10) working days of the day Defendants first become aware of the violation, with an explanation of the likely cause of the violation and of the remedial steps taken, and/or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Defendants shall include a statement to that effect in the report. Defendants shall investigate to determine the cause of the violation and then shall submit an amendment to the report, including a full explanation of the cause of the violation, within thirty (30) days of the day Defendants become aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendants of their obligation to provide the requisite notice for purposes of Section XIII (Force Majeure).

b. In the case of any violation or other event that may pose an imminent and substantial endangerment to the public health or welfare or the environment, Defendants shall notify EPA orally or by electronic or facsimile transmission as soon as possible, but not later than twenty-four (24) hours after Defendants first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

24. All reports shall be submitted to the persons designated in Section XVIII of this Consent Decree (Notices). The reporting requirements of this Consent Decree do not relieve Defendants of any reporting obligations required by the CAA or implementing regulations, or by any other federal, State, or local law, regulation, permit, or other requirement. Any information provided pursuant to this Consent Decree may be used by the United States or Defendants in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

VII. CERTIFICATIONS

25. Whenever this Consent Decree, including Attachment A, requires the Defendants to submit a work plan, design, study, report, or other document, it shall be signed and certified as accurate by a responsible corporate officer as defined in 40 C.F.R. § 270.11(a)(1), or his duly authorized representative. This certification shall include the following language:

> I certify under penalty of law that this document and any attachments to it were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing and willful submission of a materially false statement.

IX. COMPLETION OF THE WORK

26. Within ninety (90) days after Defendants conclude that all phases of the Work required under any section of Attachment A have been fully performed, Defendants shall submit one or more written reports by qualified professionals in the relevant technical fields, certifying in compliance with Section VII of this Consent Decree that the Work required by that section of Attachment A has been completed in full satisfaction of its requirements or that any failure to complete Work has been disclosed to EPA and rectified in accordance with Paragraphs 23(a) and 17 of this Consent Decree. These reports shall indicate the case name and civil action number, and shall be certified in accordance with Section VII.

27. If EPA so requests, Defendants shall schedule and conduct an inspection of the Buckeye Locations, to be attended by Defendants and EPA, to review the certified portion of the Work. The State shall also be invited to attend.

28. If, after review of the final written reports and certifications, and any inspection, EPA determines that any portion of the certified Work has not been completed in accordance with this Consent Decree and Attachment A, EPA will notify Defendants in writing of the activities that must be undertaken to complete this portion of the Work. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and Attachment A, or will require Defendants to submit a schedule to EPA for approval pursuant to Section VI (Submissions Requiring Agency Approval). Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to their right, if any, to invoke the dispute resolution procedures set forth in Section XIV (Dispute Resolution). Upon completion of these activities, Defendants shall submit revised written reports and certifications for the completed portion of the Work.

29. Within one hundred twenty (120) days of Defendants' completion of any remaining Work performed pursuant to Paragraph 28 , or such other period as may be approved by EPA, Defendants shall submit a Request for Acknowledgment of Completion, referencing all final written reports and certifications submitted pursuant to Paragraph 26 or 28, supra, and Attachment A. Following its receipt of the Request for Acknowledgment of Completion, EPA may request an inspection or provide notice of activities that must be undertaken to complete the Work, as set forth in Paragraph 28. If EPA concludes, based on the initial or any subsequent Request for an Acknowledgment of Completion by Defendants, and after a reasonable opportunity for review and comment by the State, that the Work required under Attachment A has been performed in accordance with this Consent Decree, and that any failure to complete Work has been disclosed to EPA and rectified in accordance with Paragraphs 23(a) and 17 of this Consent Decree, EPA will so notify the Defendants in writing, which notice shall constitute the Acknowledgment of Completion.

X. ACCESS

30. Commencing upon the date of lodging of this Consent Decree, Defendants agree to provide the United States and its representatives, including its agencies, employees and authorized agents (including contractors and subcontractors), access at all reasonable times to the Buckeye Locations and any other property owned or controlled by Defendants or accessible to Defendants by contract, to which access is required for the implementation of this Consent Decree, for the purposes of conducting any activity related to this Consent Decree, including, but not limited to:

a. Monitoring the Work;

b. Verifying any data or information submitted to the United States;

c. Conducting investigations relating to the Work;

d. Obtaining samples relating to the Work;

e. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Defendants or their agents related to the Work, subject to Defendants' right to assert the existence of privilege in accordance with Paragraph 64 of this Consent Decree; and

f. Assessing Defendants' compliance with this Decree.

31. The activities authorized by this Section include, but are not limited to:

a. Interviewing and obtaining oral, written, or recorded statements from personnel involved in activities pertaining to the Work required by this Consent Decree, whether such personnel are employed by the Defendants or by their contractors or subcontractors;

b. Inspecting, reviewing, and copying all documents that relate to activities pertaining to the Work required by this Consent Decree, subject to Defendants' right to assert the existence of privilege in accordance with Paragraph 64 of this Consent Decree;

c. Observing, photographing, or otherwise documenting the performance or completion of activities pertaining to the Work required by this Consent Decree; and

d. Conducting such other monitoring and investigative activities as EPA deems necessary to monitor activities pertaining to the Work required by this Consent Decree.

32. At the time of entering a Buckeye Location, EPA employees and representatives shall present valid credentials or other official authorization. The Defendants shall have the right to accompany EPA representatives throughout their presence at the Buckeye Location, and to monitor and record the investigative activities conducted by EPA, so long as such monitoring or recording does not delay or impede the investigative activities of EPA. If a recording of EPA's

investigatory activities is made by EPA, or the Defendants, a copy of the recording shall be provided to the other participant.

33. Defendants, upon request at the time of sampling, may obtain splits of any samples taken by the United States, EPA, the State, or their representatives, and, upon request, shall be provided with copies of the results of sampling, analysis, tests, or other raw data generated as a result of activities authorized under Paragraphs 30, 31 and 32 of this Consent Decree.

34. Notwithstanding the foregoing Paragraph or any other provision of this Consent Decree, the United States hereby retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under the CAA and any other applicable statutes, regulations or permits.

XI. CIVIL PENALTY

35. Defendants will pay a civil penalty of Eight Hundred Eighty Thousand Five Hundred and Ninety Eight Dollars ($880,598.00) to the United States for the violations enumerated in the Complaint in this action.

a. Within five (5) working days of Defendants' receipt of notice of the lodging of this Consent Decree with the Court, Defendants shall establish an interest bearing escrow account meeting the requirements of this Paragraph in a federally-insured bank duly chartered in the State of Ohio, and shall remit to the escrow account funds in the amount of Eight Hundred Eighty Thousand Five Hundred and Ninety Eight Dollars ($880,598.00).

b. Within the same time frame, Defendants shall send to the United States, by overnight mail directed to the addresses specified in Section XVIII (Notices) of this Decree, copies of the documents establishing and funding the escrow account, together with information containing the identities of the bank and of the escrow agent, the bank account under which the escrow

account is established, and a bank statement or deposit slip showing the initial balance of the escrow account. The correspondence shall also reference the civil action number of this case, and the Department of Justice ("DOJ") case number (90-11-2-06089).

c. All funds paid into the escrow account by Defendants shall remain in escrow and may not be withdrawn by any person except to make the payment required by Paragraph 35 of this Decree, unless the Court determines that entry of this Consent Decree is not in the public interest and declines to enter it as an order. If the Court declines to enter the Consent Decree as an order, all sums in the escrow account shall be governed by the Stipulation and Supplemental Stipulation of the Parties dated January 22, and 23, 2004. Copies of these Stipulations are attached hereto as Attachment B and C, respectively.

d. Within ten (10) working days of Defendants' receipt of notice of entry of the Consent Decree by the Court, Defendants shall remit the penalty payment to the United States. Payment shall be made by Electronic Funds Transfer ("EFT") to the U.S. Department of Justice lockbox bank at the Office of the United States Attorney for the Northern District of Ohio, Western Division, referencing the DOJ Number 90-11-2-06089, and the U.S.A.O. file number. Payment shall be made in accordance with instructions to be provided to Defendants following lodging of the Consent Decree by the Financial Litigation Unit of the U.S. Attorney's Office for the Northern District of Ohio, Western Division. Any EFTs received at the U.S. D.O.J. lockbox bank after 4:00 P.M. (Eastern Time) will be credited on the next business day. At the time of payment, Defendants shall simultaneously send written notice of payment and a copy of any transmittal documentation (which should reference DOJ case number 90-11-2-06089 and the civil action number of this case) to the United States in accordance with Section XVIII of this Decree (Notices).

36. In the event that the payment required by Paragraph 35 is not made in compliance with the terms of Paragraph 35, Defendants shall be subject to late charges by the United States in accordance with the Debt Collection Act of 1982, 31 U.S.C. § 3717 and 40 C.F.R. § 13.11. First, Defendants shall pay Interest on the unpaid balance at the rate established by the Secretary of Treasury pursuant to 31 U.S. § 3717. The Interest on the penalty shall begin to accrue on the 11th day following Defendants' receipt of notice of the entry of the Consent Decree, and shall continue to accrue at the rate specified through the date of payment. Such Interest shall be compounded each federal fiscal year. Second, Defendants shall pay a 6% per annum late fee on any principal amount not paid within ninety (90) days of the due date. Third, Defendants shall pay an administrative costs (handling) charge of fifteen dollars ($15) for each month past the due date specified by the Consent Decree that it does not pay the penalty in full. Payments of Interest, late fees and handling charges made under this Paragraph shall be in addition to stipulated penalties provided in Section XII (Stipulated Penalties) or any other remedies or sanctions available to Plaintiffs by virtue of Defendants' failure to make timely payments under this Section. Payments made pursuant to this Paragraph shall be made in accordance with the procedures set forth in Paragraph 35.

37. Defendants agree that the payment of the Civil Penalty is not assignable or transferable to any other party in connection with any sale of assets pertaining to the Buckeye Locations.

38. Defendants shall not deduct the civil penalty paid under this Section in calculating their federal income tax.

XII. STIPULATED PENALTIES

39. If Defendants fail to pay the civil penalty required to be paid under Section XI of this Decree (Civil Penalty) when due, Defendants shall pay a Stipulated Penalty of $1,000 per day for each day that the payment is late. Late payment of the civil penalty shall be made in accordance with Section XI, Paragraphs 35 and 36, above. Stipulated Penalties shall be paid in accordance with Section XII, Paragraph 47, below. All transmittal correspondence shall state that any such payment is for late payment of the civil penalty due under this Decree, or for Stipulated Penalties for late payment, as applicable, and shall include the identifying information set forth in Paragraphs 35 above.

40. Defendants shall be liable for Stipulated Penalties to the United States for violations of this Consent Decree as specified below, unless excused under Section XIII (Force Majeure). A violation includes failing to perform any of the Work required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

41. Compliance Milestones. The following Stipulated Penalties shall accrue per violation per day for each violation of the requirements of Attachment A:

Penalty Per Violation Per Day	Period of Noncompliance
$500	1st through 14th day
$750	15th through 30th day
$1,500	31st day and beyond

42. Reporting Requirements. The following Stipulated Penalties shall accrue per violation per day for each violation of the reporting requirements of Section VII of this Consent Decree:

Penalty Per Violation Per Day	Period of Noncompliance
$250	1st through 14th day
$500	15th through 30th day
$1,000	31st day and beyond

43. Subject to the provisions of Section XIV (Dispute Resolution), Stipulated Penalties under this Section shall begin to accrue on the day after performance is due or on the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated Penalties shall accrue simultaneously for separate violations of this Consent Decree. Defendants shall pay any Stipulated Penalty within thirty (30) days of receiving the United States' written demand, subject to the dispute resolution provision.

44. The United States may, in the unreviewable exercise of its discretion, reduce or waive Stipulated Penalties otherwise due it under this Consent Decree.

45. Stipulated Penalties shall continue to accrue as provided in Paragraph 43, above, during any Dispute Resolution, with Interest on accrued penalties payable and calculated at the rate established by the Secretary of the Treasury, pursuant to 31 U.S.C. § 3717 but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to the Court, Defendants shall pay accrued penalties determined to be owing,

together with Interest, to the United States within thirty (30) days of the effective date of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to the Court and the United States prevails, Defendants shall pay all accrued penalties determined by the Court to be owing, together with Interest, within sixty (60) days of receiving the Court's decision or order, except as provided in Subparagraph c, below;

c. If any Party appeals the District Court's decision, Defendants shall pay all accrued penalties determined to be owing, together with Interest, within fifteen (15) days of receiving the final appellate court decision.

46. Defendants shall pay Stipulated Penalties for violations occurring between the date of lodging and the Effective Date of this Consent Decree within thirty (30) days of the Effective Date of this Decree.

47. Defendants shall, as directed by the United States pursuant to Paragraph 43 and 44, pay Stipulated Penalties owing to the United States by EFT in accordance with Section XI, Paragraph 35(d), above.

48. Defendants shall not deduct Stipulated Penalties paid under this Section in calculating their federal income tax.

49. If Defendants fail to pay Stipulated Penalties according to the terms of this Consent Decree, the United States shall be entitled to collect Interest on such penalties, as provided for in 31 U.S.C. § 3717.

50. Subject to the provisions of Section XVI of this Consent Decree (Effect of Settlement/Reservation of Rights), the Stipulated Penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States for

Defendants' violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of the CAA Defendants shall be allowed a credit, for any Stipulated Penalties paid, against any statutory penalties imposed for such violation.

XIII. FORCE MAJEURE

51. A "force majeure event" is any event beyond the control of Defendants, their contractors, or any entity controlled by Defendants that delays the performance of any obligation under this Consent Decree despite Defendants' best efforts to fulfill the obligation. "Best efforts" includes anticipating any potential force majeure event and addressing the effects of any such event (a) as it is occurring and (b) after it has occurred, to prevent or minimize any resulting delay to the greatest extent possible. "Force Majeure" does not include Defendants' financial inability to perform any obligation under this Consent Decree.

52. Defendants shall provide notice orally or by electronic or facsimile transmission as soon as possible, but not later than five (5) days after the time Defendants first knew of, or by the exercise of due diligence, should have known of, a claimed force majeure event. Defendants shall also provide written notice, as provided in Section XVIII of this Consent Decree (Notices), within fourteen (14) days of the time Defendants first knew of, or by the exercise of due diligence, should have known of, the event. The notice shall state the anticipated duration of any delay; its cause(s); Defendants' past and proposed actions to prevent or minimize any delay; a schedule for carrying out those actions; and Defendants' rationale for attributing any delay to a force majeure event. Failure to give such notice shall preclude Defendants from asserting any claim of force majeure.

53. If the United States agrees that a force majeure event has occurred, the United States shall agree to extend the time for Defendants to perform the affected requirements for the time

necessary to complete those obligations. An extension of time to perform the obligations affected by a force majeure event shall not, by itself, extend the time to perform any other obligation. Where the United States agrees to an extension of time, the appropriate modification shall be made pursuant to Section XX of this Consent Decree (Modification).

54. If the United States does not agree that a force majeure event has occurred, or does not agree to the extension of time sought by Defendants, the United States' position shall be binding unless Defendants invoke Dispute Resolution under Section XIV of this Consent Decree. In any such dispute, Defendants bear the burden of proving, by a preponderance of the evidence that such claimed force majeure event is a force majeure event; that Defendants gave the notice required by Paragraph 52; that the force majeure event caused any delay Defendants' claim was attributable to that event; and that Defendants exercised best efforts to prevent or minimize any delay caused by the event.

XIV. DISPUTE RESOLUTION

55. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. However, such procedures shall not apply to actions by the United States to enforce obligations of the Defendants that have not been disputed in accordance with this Section.

56. Informal Dispute Resolution. Any dispute subject to dispute resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when Defendants send the United States a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed twenty (20) days from the date the dispute arises, unless that period

is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be considered binding unless, within twenty (20) days after the conclusion of the informal negotiation period, Defendants invoke formal dispute resolution procedures as set forth below.

57. Formal Dispute Resolution. Defendants shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but may not be limited to, any factual data, analysis, or opinion supporting Defendants' position and any supporting documentation relied upon by Defendants.

58. The United States shall serve its Statement of Position within forty-five (45) days of receipt of Defendants' Statement of Position. The United States' Statement of Position shall include, but may not be limited to, any factual data, analysis, or opinion supporting that position and all supporting documents relied upon by the United States. The United States' Statement of Position shall be binding on Defendants, unless Defendants file a motion for judicial review of the dispute in accordance with the following Paragraph.

59. Defendants may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XVIII of this Consent Decree (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within forty-five (45) days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of Defendants' position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

60. The United States shall respond to Defendants' motion within the time period provided in the Local Rules of this Court, unless the Parties stipulate otherwise. Defendants may file a reply memorandum, to the extent permitted by the Local Rules or the Parties' stipulation, as applicable.

61. In any dispute under this Paragraph, Defendants shall bear the burden of demonstrating that their position is consistent with this Consent Decree and the CAA and that Defendants are entitled to relief under applicable law. The United States reserves the right to argue that its position is reviewable only on the administrative record and must be upheld unless arbitrary and capricious or otherwise not in accordance with law.

62. The invocation of dispute resolution procedures under this Section shall not extend, postpone, or affect in any way any obligation of Defendants under this Consent Decree, not directly in dispute. Stipulated Penalties with respect to the disputed matter shall continue to accrue from the first day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 45, above. Except as otherwise prescribed by the Court, if Defendants do not prevail on the disputed issue, Stipulated Penalties shall be assessed and paid as provided in Section XII (Stipulated Penalties).

XV. INFORMATION RETENTION

63. Until two years after the termination of this Consent Decree, Defendants shall retain, and shall instruct their contractors and agents to preserve, all non-identical copies of all records and documents (including records or documents in electronic form) in their or their contractors' or agents' possession or control, or that come into their or their contractors' or agents' possession or control, and that relate in any manner to Defendants' performance of the Work under this Consent Decree. This record retention requirement shall apply regardless of

any corporate or institutional document-retention policy to the contrary. At any time during this record-retention period, the United States may request copies of any documents or records required to be maintained under this Paragraph.

64. At the conclusion of the document-retention period provided in the preceding Paragraph, Defendants shall notify the United States at least ninety (90) days prior to the destruction of any records or documents subject to the requirements of the preceding Paragraph, and, upon request by the United States, Defendants shall deliver any such records or documents to EPA. Defendants may assert that certain documents, records, or other information are privileged under the attorney-client privilege or any other privilege recognized by federal law, or that otherwise qualify as confidential business information pursuant to 40 C.F.R. Part 2. If Defendants assert such a privilege, they shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Defendants. However, no documents, reports, or other information created or received pursuant to the requirements of this Consent Decree shall be withheld on the grounds that they are privileged.

65. The Consent Decree in no way limits or affects any duty or obligation of Defendants to maintain records or information imposed by applicable federal or State laws, regulations, or permits.

XVI. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

66. This Consent Decree resolves and constitutes a release of the civil claims of the United States for the violations alleged in the Amended Complaint filed in this action through the date of lodging of the Consent Decree. Provided that Defendants comply with this Consent Decree from the date of lodging of the Consent Decree through its Effective Date, these claims shall also be resolved through the Effective Date of this Consent Decree. Upon EPA's issuance of an Acknowledgment of Completion pursuant to Paragraph 29, these claims shall be finally resolved and released. This Consent Decree shall not be construed to prevent or limit the rights of the United States to obtain penalties or injunctive relief under the CAA or implementing regulations, or under other federal or State laws, regulations, or permit conditions, except as expressly specified herein.

67. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Decree. Defendants reserve all legal and equitable defenses available to defend against enforcement of the provisions of this Consent Decree.

68. The United States further reserves all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, Defendants' Locations, whether related to the violations addressed in this Consent Decree or otherwise. Defendants reserve all legal and equitable defenses available to defend against such an assertion of any imminent and substantial endangerment.

69. Defendants are responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and Defendants' compliance with this Consent Decree shall be no defense to any action commenced pursuant to said laws, regulations, or permits. The United States does not, by its consent to the entry of this

Consent Decree, warrant or aver in any manner that Defendants' compliance with any aspect of this Consent Decree will result in compliance with provisions of the CAA.

70. This Consent Decree does not limit or affect the rights of Defendants or of the United States against any third parties not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Defendants.

71. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XVII. COSTS

The Parties shall bear their own costs in connection with this action and the Consent Decree , including attorneys' fees, except as otherwise authorized by applicable law.

XVIII. NOTICES

72. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

To the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-11-2-06089

Compliance Tracker
Air Enforcement and Compliance Assurance Branch
U.S. Environmental Protection Agency
Region 5; AE-17J
77 W. Jackson Blvd.
Chicago, IL 60604

and

Director, Office of Regulatory Enforcement
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Mailcode 2241A
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

To Defendants:

John D. Austin, Jr.
Patton Boggs LLP
2550 M Street, N.W.
Washington, DC 20037

David E. Northrop
Porter Wright Morris & Arthur LLP
41 South High Street
Columbus, OH 43215-6194

73. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

74. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XIX. RETENTION OF JURISDICTION

75. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Section XIV and XX, or effectuating or enforcing compliance with the terms of this Decree.

XX. MODIFICATION

76. Except as specifically provided for herein, there shall be no modifications or amendments of this Consent Decree without written agreement of the Parties to this Consent Decree and approval by this Court. Changes to the technical and schedule provisions set forth in Attachment A hereto may be made without approval by the Court under the terms set forth in Attachment A, or upon written agreement between the Defendants and EPA.

77. In the event that a transferee of property under Section II of this Consent Decree should desire to become a party to this Consent Decree and subject to all its terms and provisions, it may do so upon written approval of the United States, in which event a supplemental signature page will be affixed to this Consent Decree and filed with the Court.

XXI. EFFECTIVE AND TERMINATION DATES

78. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court. Provided that all penalties are paid pursuant to Sections XI (Civil Penalty) and XII (Stipulated Penalties) of this Consent Decree, the Consent Decree shall be terminated as follows:

a. Following EPA's issuance of the Acknowledgment of Completion of the Work pursuant to Section IX of this Consent Decree, the parties may move jointly to terminate this Consent Decree based on their representations that all its requirements have been satisfied, and the Court may order such termination after conducting such inquiry as it deems appropriate.

b. If the United States does not issue an Acknowledgment of Completion of the Work following a request by the Defendants in accordance with Section IX of this Consent Decree, then Defendants may invoke Dispute Resolution under Section XIV, and subsequent judicial review under Paragraph 59, of this Decree.

79. Termination of this Consent Decree in accordance with Paragraph 78, supra, shall not terminate the requirements of Section XV (Information Retention), which shall terminate pursuant to the terms of that Section.

80. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Defendants consent to entry of this Consent Decree without further notice.

XXII. SIGNATORIES/SERVICE

81. Each undersigned representative of Defendants and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

82. This Consent Decree may be signed in counterparts, and such counterpart signature pages shall be given full force and effect .

83. Defendants agree not to oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified Defendants in writing that it no longer supports entry of the Decree.

84. Defendants agree to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXIII. INTEGRATION

85. This Consent Decree, including Attachments A, B, and C, constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than these Attachments, which are attached to and incorporated in this Decree, no other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Decree or the settlement it represents, nor shall it be used in construing the terms of this Decree.

XXIV. FINAL JUDGMENT

86. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States and Defendants. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XXV. APPENDICES

87. The following appendices are attached to and incorporated into this Consent Decree: "Attachment A" is the Compliance Schedule setting forth the Work required of the Defendants under this Consent Decree. "Attachment B" is the Stipulation to Dismiss, Without Prejudice, Plaintiff's Application for a Prejudgment Writ of Attachment, filed with the Court in this matter on January 22, 2004. "Attachment C" is the Supplemental Stipulation to the Stipulation to Dismiss, Without Prejudice, Plaintiff's Application for a Prejudgment Writ of Attachment, filed with the Court in this matter on January 23, 2004.

UNITED STATES DISTRICT JUDGE
Northern District of Ohio, Western Division

FOR PLAINTIFF UNITED STATES OF AMERICA

Tom Sansonetti

THOMAS L. SANSONETTI
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

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By: Phyllis P. Harris

PHYLLIS HARRIS
Acting Assistant Administrator
Office of Enforcement & Compliance Assurance
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By: Robert A. Kaplan

ROBERT A. KAPLAN
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Office of Regulatory Enforcement
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THOMAS V. SKINNER
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77 West Jackson Blvd.
Chicago, IL 60604

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Associate Regional Counsel
United States Environmental Protection Agency
77 West Jackson Blvd.
Chicago, IL 60604

FOR DEFENDANTS

ANTON POHLMANN

Date: Jan. 30, 2004

BUCKEYE EGG FARM, L.P.

By: Croton Farm LLC, its General Partner

Sole Members:

Anton Pohlmann

Poultry Investors Group, Inc., an Ohio corporation

By: Anton Pohlmann

CROTON FARM LLC

Anton Pohlmann

Poultry Investors Group, Inc., and Ohio Corporation

By: Anton Pohlmann

ATTACHMENT A
Buckeye Egg Farm - Emission Controls

1. Defendants shall implement the requirements of this Attachment A to the Consent Decree between the United States and Defendants in accordance with the schedules provided herein at each layer barn at Buckeye's Croton, Marseilles and Mt. Victory Locations.

a. Nothing in this Attachment shall be deemed to prevent the re-opening of currently closed layer barns at the Marseilles Location pursuant to the permits issued by ODA on February 2, 2004, but the operation of such re-opened barns shall thereafter be subject to this Attachment. All requirements of this Attachment A are subject to the Consent Decree, including, without limitation, provisions relating to the submission of documents requiring EPA approval, notice, and stipulated penalties, unless otherwise specified in this Attachment.

b. Nothing in the Consent Decree or this Attachment shall be deemed to preclude, be deemed inconsistent with, or be deemed as an adverse admission with respect to Buckeye's, or any successor's, right to assert that various sites at the Croton Location constitute separate facilities or separate emission sources for purposes of calculating emissions from the stationary sources or in determining the applicability of any requirements under the federal Clean Air Act, in connection with any action other than an action brought pursuant to this Consent Decree. Nothing in the Consent Decree or this Attachment shall preclude the United States from asserting in any such action that various sites at the Croton Location constitute only one facility or emission source for purposes of calculating emissions or in determining the applicability of any requirement under the Clean Air Act.

2. Defendants have proposed a system for controlling particulate matter (PM) emissions from layer barns at the Croton, Marseilles and Mt. Victory Locations using new controls or adaptations of controls used elsewhere. Similarly, Defendants propose the use of enzyme additive products to control ammonia emissions. This Attachment provides a protocol for testing the PM emission controls or adaptations of controls used elsewhere and enzyme additive product, and for implementing or altering the approaches proposed by Defendants based on the data collected.

I. PARTICULATE MATTER CONTROLS

A. System Design

3. By March 15, 2004, Defendants shall submit to EPA for review and approval a Proposed PM Control Design and Implementation Plan ("PM Plan") for a system of weighted plastic sheeting and impaction media, and/or other emission controls, to be installed and operated alongside the exhaust fans in its layer barns as provided in Section I.C , below, to reduce PM emitted via the fans into the ambient air (the "Particulate Impaction System" or "System"), consistent with the System outlined in Exhibit 1 hereto. The PM Plan shall include:

a. A description of the proposed Particulate Impaction System;

b. An explanation of the Particulate Impaction System design and installation procedures;

c. A summary of the estimated costs associated with the construction, installation, implementation and/or operation of the proposed Particulate Impaction System, including any estimated cost savings associated with the use of the System;

d. A description of the expected PM emission reductions and reasons for the reductions expected to result from the use of the proposed Particulate Impaction System. This description must include any reasonably available data that substantiates the expected emission reductions from the Defendants' barns, as well as other locations where the Defendants are aware that the Particulate Impaction System has been or is expected to be installed;

e. A schedule for reviewing any bids associated with the construction and installation of the Particulate Impaction System, purchasing all relevant equipment, construction/installation of the Particulate Impaction System, start-up of the Particulate Impaction System, and time necessary to adjust the System for optimum performance;

f. Proposed reporting and record-keeping requirements that will allow EPA to track Defendants' progress toward installing, completing and operating the proposed Particulate Impaction System; and

g. A description of any other emissions or waste streams expected to result from the use of the Particulate Impaction System that could have adverse effects on the environment, public health or welfare, and a description of how such emissions or waste streams will be managed.

4. The PM Plan shall also propose a protocol for testing the Particulate Impaction System consistent with the requirements outlined in Section I.B , below.

5. Defendants may include in the PM Plan additional or alternative emission controls or proposed alterations to the Particulate Impaction System outlined in Exhibit 1 , or to the testing requirements set forth in Section I.B , infra, based on Defendants' and EPA's evaluation of the Particulate Impaction System and any other potential emissions control devices, systems or operational restrictions. EPA's approval of control systems, operational restrictions, testing conditions and/or schedules in the PM Plan that depart from the requirements of this Attachment shall be deemed an amendment of this Attachment. Any such approval must be in writing. If EPA does not approve such proposed alterations, then the requirements of this Attachment shall apply. EPA's decision to approve or disapprove any alterations to the Particulate Impaction System or to the testing requirements set forth in this Attachment shall not be subject to the Dispute Resolution provisions of the Consent Decree, and shall only be subject to review by the United States District Court if Defendants can establish on the administrative record that EPA's decision was arbitrary and capricious, pursuant to the Administrative Procedures Act, 5 U.S.C. § 706(2)(A).

6. Defendants shall provide copies of the PM Plan to the Ohio Environmental Protection Agency ("OEPA") and the Ohio Department of Agriculture ("ODA").

B. Testing

1. Marseilles/Mt. Victory Locations

7. Within thirty (30) days of receipt of EPA's approval of the PM Plan, Defendants shall install the approved Particulate Impaction System, and other PM emission control measures in the approved PM Plan, at one fan in a layer barn with a deep-pit manure management system at the Mt. Victory Location, in accordance with the approved PM Plan.

8. Within thirty (30) days of the installation of the Particulate Impaction System, pursuant to Paragraph 7, above, Defendants shall complete a test at the selected fan to measure PM and PM-10 concentrations to determine the control efficiency of the Particulate Impaction System. The test will be conducted using the following protocol, to be further developed in accordance with Paragraph 4: On the inlet side of the Particulate Impaction System, install a TEOM 1400A PM-10 sampling head and microbalance, and a gravimetric TSP device. Such devices will also be installed at the outlet side, between the Particulate Impaction System and the ventilation fan. The fan shall be operated continuously and measurements shall be conducted such that any difference between inlet and outlet TSP and PM-10 concentrations can be quantitatively determined to derive the PM control efficiency of the Particulate Impaction System. The sample integration time for the PM-10 analyzer shall be thirty (30) minutes, and the integration time for the TSP samplers shall be daily, or as determined on-site by filter loading. It is anticipated that the test will be conducted for approximately seven (7) days to assess any variability in control efficiency as the Particulate Impaction System accumulates PM. A temporary shelter shall be stationed next to the layer barn to house the TEOM control units and to provide space for the transfer of gravimetric filters to containers for off-site laboratory analysis.

9. Within fourteen (14) days of completion of the tests required in Paragraph 8, supra, Defendants shall submit the test results to EPA. Within twenty-one (21) days of completion of these tests, Defendants shall also submit any proposed changes to the PM Plan to increase the efficacy of the Particulate Impaction System, for EPA's review and approval in accordance with Paragraphs 3,4, 5, and 6, supra.

10. Within forty-five (45) days of EPA's approval of any changes to the PM Plan, or written confirmation that no changes are required, Defendants shall commence installation of the Particulate Impaction System at all fans throughout one layer barn at the Mt. Victory Location, as selected in the PM Plan, in accordance with the schedule set forth in the approved PM Plan.

11. Within one hundred eighty (180) days of completion of installation of the Particulate Impaction System at all fans in one barn, as required in Paragraph 10, supra, Defendants shall commence emissions testing at that barn using the secondary testing method described in Exhibit 2 hereto, for a period of six (6) continuous months that shall include the month of

August 2004. Defendants shall simultaneously commence emissions testing using the secondary method at a control barn at Mt. Victory selected in the PM Plan of comparable design, age, chicken population, and other relevant parameters. A summary of the validated data, in spreadsheet format, obtained during the secondary emission testing shall be electronically submitted to EPA on a monthly basis throughout the emission testing period, or on such other periodic basis as may be agreed to by the parties. This test may be conducted at the same time as the testing required in Paragraph 29, infra.

12. Within sixty (60) days of completion of the secondary method emissions testing required in Paragraph 11, supra, Defendants shall submit the final month of validated test data, and within thirty (30) days thereafter shall submit their conclusions regarding the annual emission rate to EPA. Defendants shall also submit at this time any proposed changes to the PM Plan to increase the efficacy of the Particulate Impaction System, for EPA's review and approval in accordance with Paragraphs 3,4, 5, and 6, supra.

2. Croton Location

13. At the Croton Location, Defendants are currently effecting a change in bird variety and feed that Defendants believe will substantially reduce particulate emissions. Defendants also will be commencing the use of a manure enzyme additive at the layer barns at the Croton Location. These changes and any other operational changes that Defendants believe will reduce PM emissions shall be included by Defendants in the PM Plan for the Croton Location submitted to EPA for approval pursuant to Paragraphs 3 4, 5 and 6.

14. By May 15, 2004, Defendants shall complete either a Method 5 or 17 PM emissions test over a five (5) day period on a belt battery barn containing chickens of the new variety and consuming the new feed, for comparison with the Method 17 testing on a belt battery barn conducted in August/September 2003. Defendants shall propose in the PM Plan a barn to be tested for this purpose, to most closely approximate conditions in the barn tested in August/September 2003.

15. Within thirty (30) days of completion of the Method 5 or 17 test required in Paragraph 14, supra, Defendants shall submit the test results to EPA, together with any proposed changes to the PM Plan for the Croton Location to further decrease PM emissions, for EPA's review and approval in accordance with Paragraphs 3,4, 5, and 6, supra. Any proposed changes to the PM Plan for the Croton Location shall also include a proposed protocol and schedule for testing and implementing the proposed changes.

16. Within forty-five (45) days of EPA's approval of the test results obtained under Paragraph 14 and approval of any modification of the PM Plan for the Croton Location, Defendants shall commence emission testing at a barn at the Croton Location with the new bird variety and feed and with a belt battery manure handling system, using the secondary testing method described in Exhibit 2 hereto, for a period of six (6) continuous months that shall include the month of August 2004. A summary of the validated data, in spreadsheet format, obtained during the secondary emission testing shall be electronically submitted to EPA on a monthly

basis throughout the emission testing period, or on such other periodic basis as may be agreed to by the parties.

17. Within sixty (60) days of completion of the secondary method emissions testing required in Paragraph 16, supra, Defendants shall submit the final month of validated test data, and within thirty (30) days thereafter shall submit their conclusions regarding the annual emission rate to EPA. Defendants shall also submit at this time any proposed changes to the PM Plan to further reduce PM emissions at the Croton Location, for EPA's review and approval, in accordance with Paragraphs 3, 4, 5, and 6, supra. Any proposed changes to the PM Plan for the Croton Location shall also include a proposed protocol and schedule for testing and implementing the proposed changes.

C. Implementation

18. Within sixty (60) days of Defendants' receipt of EPA's analysis of the test results obtained pursuant to Paragraphs 11 and 16 , respectively, or any subsequent testing following EPA's approval of any changes to the PM Plan, Defendants shall commence installation of PM emission control measures under Section I.C.1 or I.C.2 , infra, as applicable.

1. Marseilles/Mt. Victory Locations

a. Emissions Less than 250 tpy

19. If EPA determines that test results obtained, pursuant to Paragraph 11, supra, using the methodology set forth in Exhibit 3, indicate that PM emissions using the Particulate Impaction System and any other PM emission control measures approved in the PM Plan will be less than 250 tons per year ("tpy") per Location for either or both the Marseilles and Mt. Victory Locations, then Defendants shall, within sixty (60) days of the EPA determination, commence installation of the Particulate Impaction System in all the layer barns at the Location(s) satisfying this condition, and shall complete the installation within a year of EPA's determination, or in accordance with any modified schedule set forth in the approved PM Plan, but shall not be obligated under the Consent Decree to develop or install additional PM emission controls. Defendants shall not be obligated to submit applications for any applicable federally enforceable permits that may be triggered by emissions less than 250 tpy until one hundred twenty (120) days following receipt of EPA's analysis of the results of tests conducted under Paragraph 11 and reported under Paragraph 12, or any subsequent testing following EPA's approval of any changes to the PM Plan.

20. Defendants shall continue to operate the Particulate Impaction System installed in each layer barn at the Marseilles and Mt. Victory Locations in accordance with Paragraph 19, supra, until one of the following conditions is met:

a. EPA approves in writing an alternative PM control system to be implemented in lieu of or in addition to the Particulate Impaction System and any other PM emissions controls approved in the PM Plan; or

b. A layer barn is closed and no longer houses poultry. Any such layer barn closure must be completed in accordance with all applicable federal, state and local requirements. If Defendants at any time intend to reopen or replace one or more closed barns, they must notify EPA, ODA and OEPA in writing of this plan prior to reopening, and may not reopen any of the closed barns or construct replacement barns until the approved Particulate Impaction System or other PM emission controls approved by EPA are installed therein, or one of the other conditions of Paragraph 20 are met. This provision does not apply to temporary barn closures of less than twelve (12) weeks in duration due to normal operational practices, such as replacement of old layers, routine maintenance and repair, replacement of equipment, clean-out, disease, or infection;

c. The Consent Decree is terminated in accordance with the provisions thereof; or

d. Federally-enforceable permit(s) is/are issued that:

1. imposes operational controls under the synthetic minor permit requirements of the Ohio State Implementation Plan (see Ohio Administrative Code ("OAC") Rules 3745-31-02 and 3745-31-05); or

2. includes PM emission control requirements that equal or exceed those required by this Attachment.

e. A federal agency determines that the operation of the Particulate Impaction System may be harmful to human health, worker safety, the environment, or the poultry, and that the Particulate Impaction System should no longer be operated. Within thirty (30) days of such a determination, Defendants shall submit a proposed alternative PM Plan, in accordance with Paragraphs 3, 4, 5, and 6, supra.

b. Emissions Greater than 250 tpy

21. If EPA determines that test results obtained pursuant to Paragraph 11, supra, using the methodology set forth in Exhibit 3, indicate that PM emissions using the Particulate Impaction System and any other PM emission controls in the approved PM Plan will be greater than 250 tpy at either or both the Marseilles and the Mt. Victory Locations, then, within sixty (60) days of this determination, Defendants shall elect between the following options:

a. Defendants shall propose alternative or additional controls to further reduce PM emissions at the affected Location(s), subject to EPA review and approval, in accordance with Paragraphs 3, 4, 5, and 6, supra. Any such proposal must also include further testing requirements and a proposed schedule for implementation of the alternative or additional controls at all Locations where PM emissions are calculated to exceed 250 tpy. Defendants shall implement the testing protocol and install the alternative or additional controls following EPA's written approval, in accordance with the approved testing protocol and implementation schedule,

and shall comply with Paragraph 20, supra. If EPA does not approve the proposed alternative or additional controls, then Defendants shall comply with Paragraph 21.b , infra;

or

b. Defendants shall apply for a federally enforceable permit to include particulate emission control requirements that equal or exceed those required by this Attachment, and shall comply with all other applicable requirements of the Clean Air Act.

2. Croton Location

a. Emissions Less than 250 tpy

22. If EPA determines that the secondary test method, described in Exhibit 2 hereto, test results, and/or any subsequent test results, compiled pursuant to Paragraphs 16 and 17, indicate that PM emissions from the Croton Location following the conversion to belt battery systems and using the new bird variety and feed approved in the PM Plan for the Croton Location will be less than 250 tpy, then Defendants shall not be required to install the Particulate Impaction System, and/or any other PM emission controls approved in the PM Plan, at the Croton Location, but shall continue to comply with the approved PM Plan for the Croton Location until terminated in accordance with the requirements of Paragraph 20, supra. Should Defendants wish to make further changes in poultry variety or feed or other measures submitted in the approved PM Plan to control PM emissions, it may do so upon a demonstration satisfactory to EPA, and confirmed by EPA in writing, that such changes will not increase emissions above the 250 tpy level. Defendants shall not be obligated to submit applications for any applicable federally enforceable permits that may be triggered by emissions less than 250 tpy until one hundred twenty (120) days following receipt of EPA's analysis of the results of tests conducted under Paragraph 16 and reported under Paragraph 17, or any subsequent testing following EPA's approval of any changes to the PM Plan.

b. Emissions Greater than 250 tpy

23. If EPA determines that the secondary test method, described in Exhibit 2 hereto, test results, and any other test results, compiled pursuant to Paragraphs16 and 17, indicate that PM emissions from the Croton Location will exceed 250 tpy, then within sixty (60) days of EPA's determination Defendants shall:

a. Submit to EPA for review and approval, in accordance with Paragraphs 3, 4, 5, and 6, a schedule to install the Particulate Impaction System (or other PM emission controls approved in the PM Plan) at all high rise layer barns operating at the Croton Location that are not converted to belt battery manure handling systems before December 31, 2005. Defendants shall operate the Particulate Impaction System or other approved PM controls at each such layer barn until it is converted to belt battery manure handling systems as required under the ODA permits issued on December 23, 2003, or modified or re-issued thereafter; and

b. Submit to EPA for review and approval, in accordance with Paragraphs 3, 4, 5, and 6, a proposal to test and install PM emission controls on the Croton Location layer barns following their conversion to belt battery systems as required under the ODA permits issued on December 23, 2003, or modification or reissuance thereafter. This proposal may consist of:

1. A modified version of the Particulate Impaction System suited to the design of the renovated barns; or

2. A proposed modification of the PM Plan for the Croton Location designed to reduce PM emissions from the converted layer barns through other means.

Defendants shall implement the testing protocol and install the modified, alternative, or additional controls following EPA's written approval, in accordance with the approved testing protocol and implementation schedule, and shall comply with Paragraph 20, supra. If EPA does not approve the proposed alternative or additional controls, then Defendants shall comply with Paragraph 24.b , infra.

24. If EPA determines that test results at the Croton Location obtained pursuant to Paragraph 23.b indicate that PM emissions from the Croton Location will be less than 250 tpy as a result of the modified PM Plan, then Defendants shall comply with Paragraph 22, supra. If EPA determines that test results for any proposed modification of the PM Plan for the Croton Location pursuant to Paragraph 23.b indicate that PM emissions from the Croton Location will continue to exceed 250 tpy, then, within sixty (60) days of this determination, Defendants shall elect between the following options:

a. Defendants shall propose alternative or additional controls to reduce PM emissions at the Croton Location below 250 tpy, subject to EPA review and approval, in accordance with Paragraphs 3, 4, 5, and 6, supra. Any such proposal must also include further testing requirements and a proposed schedule for implementation of the alternative or additional controls. Defendants shall implement the testing protocol and install the alternative or additional controls, following EPA's written approval, in accordance with the approved testing protocol and implementation schedule, and shall comply with Paragraph 20, supra. If EPA does not approve the proposed alternative or additional technology, then Defendants shall comply with Paragraph 24.b, infra;

or

b. Defendants shall apply for a federally enforceable permit for the Croton Location to include particulate emission control requirements that equal or exceed those required by this Attachment, and shall comply with all other applicable requirements of the Clean Air Act.

II. AMMONIA CONTROLS

A. Croton Location

25. Defendants shall convert the barns at the Croton Location to belt battery manure handling systems, in accordance with the permits issued by ODA on December 23, 2003, or as modified or re-issued thereafter.

26. Each barn at the Croton Location not converted by December 31, 2004 to a belt battery manure handling system shall be included in the testing and implementation plans required under Section II.B , infra, until such time as it is converted to a belt battery manure handling system.

B. Enzyme Additive System

27. By March 1, 2004, Defendants shall submit to EPA for review and approval a Proposed Ammonia Emissions Control Design and Implementation Plan ("Ammonia Plan") for application of an enzyme additive at all layer barns at the Marseilles and Mt. Victory Locations and at all Croton Location barns subject to Paragraph 26, supra, to control ammonia emissions. The Ammonia Plan shall include:

a. A description of the proposed enzyme additive product or system;

b. An explanation of the enzyme additive application or other operational procedures;

c. A summary of the estimated costs associated with the purchase and application of the proposed enzyme additive product or system, including any estimated cost savings associated with the use of this product or system;

d. A description of the expected emission reductions and reasons for the reductions resulting from the proposed enzyme additive product or system. This description must include any reasonably available data that substantiates the expected emission reductions obtained from the Defendants' barns as well as other locations where the Defendants are aware the enzyme additive product or system has been or is expected to be installed or applied;

e. A schedule for reviewing any bids associated with the purchase of the enzyme additive product or system, purchasing all relevant product and equipment, any construction necessary for the application or operation of the product or system, start-up of the enzyme additive application process, and time necessary to adjust the enzyme application system for optimum performance;

f. Proposed reporting and record-keeping requirements that will allow EPA to track Defendants progress toward implementing, completing and operating the proposed enzyme additive application process; and

g. A description of any other emissions or waste streams expected to result from the use of the enzyme additive product or system that could have adverse effects on the environment, public health or welfare, and a description of how such emissions or waste streams will be managed.

The Ammonia Plan shall also propose a protocol for testing the enzyme additive product or system consistent with the requirements outlined in Paragraphs 28 and 29, infra.

28. Within thirty (30) days of EPA's approval of the Ammonia Plan, Defendants shall commence bench scale testing of the enzyme additive product or system, in accordance with the approved Ammonia Plan. Within fifteen (15) days of completion of the bench scale testing of the enzyme additive product or system, Defendants shall submit the test results to EPA. If EPA determines that the bench scale tests indicate that the enzyme additive will reduce ammonia emissions by less than 50%, then Defendants shall submit for EPA's review and approval proposed changes to the Ammonia Plan to increase the efficacy of the enzyme additive product or system, or to test alternative products or systems for reducing ammonia emissions by 50% or more. These proposals shall be submitted for EPA's review and approval, in accordance with Paragraphs 27, 4, 5, and 6, supra, and any approved proposal for achieving the required ammonia emission reduction, where appropriate, shall again be bench scale tested under this Paragraph.

29. Within sixty (60) days of EPA's approval of any revisions to the Ammonia Plan, or EPA's written confirmation that no changes are required, Defendants shall commence application of the enzyme additive product or system in one layer barn with a deep-pit manure management system as selected in the approved Ammonia Plan, and shall commence emissions testing at that layer barn using the secondary testing method described in Exhibit 2 hereto, for a period of six (6) continuous months that shall include the month of August 2004. Defendants shall simultaneously commence emission testing using the secondary method at a control barn selected in the Ammonia Plan of comparable design, age, chicken population, and other relevant parameters. A summary of the validated data, in spreadsheet format, obtained during the secondary emission testing shall be electronically submitted to EPA on a monthly basis throughout the emission testing period. This testing may be conducted at the same time as the testing required in Paragraph 11.

30. Within sixty (60) days of completion of the secondary method emissions testing required in Paragraph 29, supra, Defendants shall submit the test results to EPA. Defendants shall also submit at this time any proposed changes to the Ammonia Plan to increase the efficacy of the enzyme additive products or controls or to propose alternative ammonia controls and testing protocols for EPA's review and approval, in accordance with Paragraphs 27, 4, 5, and 6, supra.

31. Within sixty (60) days of EPA's approval of any revisions to the Ammonia Plan or EPA's written confirmation that no changes are required, Defendants shall commence use of the approved ammonia emissions products or controls at all operational layer barns subject to this Section II.B , in accordance with the approved Ammonia Plan and applicable manufacturer instructions and guidelines for the use of such products or controls, and shall continue the use of

such products or controls at all operational layer barns at those locations until one of the following conditions is met:

a. EPA approves in writing an alternative ammonia control system to be implemented in lieu of the previously approved ammonia controls ;

b. A layer barn is closed and no longer houses poultry. Any such closure must be completed in accordance with all applicable federal, state and local requirements. If Defendants at any time intend to reopen or replace one or more closed barns, they must notify EPA, ODA and OEPA in writing of this plan prior to reopening, and may not reopen any of the closed barns or construct replacement barns without use of the ammonia control system approved by EPA. This provision does not apply to temporary barn closures of less than twelve (12) weeks in duration due to normal operational practices, such as replacement of old layers, routine maintenance and repair, replacement of equipment, clean-out, disease, or infection;

c. The Consent Decree is terminated in accordance with the provisions thereof.;

or

d. A federal agency determines that the operation of the enzyme additive products or controls may be harmful to human health, worker safety, the environment, or the poultry, and that the enzyme additive products or controls should no longer be used. Within thirty (30) days of such a determination, Defendants shall submit a proposed alternative Ammonia Plan, in accordance with Paragraphs 27, 4, 5, and 6, supra.

III. REPORTING OBLIGATIONS

32. Defendants must submit quarterly progress reports to EPA beginning April 30, 2004, or such later date as agreed by EPA in writing. Quarterly progress reports must then be submitted in accordance with Section VII of this Consent Decree no later than thirty (30) days after the end of any given quarter (quarters shall end on December 31, March 31, June 30, and September 30 of each year). Each quarterly progress report shall include, at a minimum, the following information, unless otherwise agreed in writing by EPA:

a. Identification of any operational layer barns to be closed at any of the Croton, Mt. Victory and Marseilles Locations in the following quarter, including the anticipated date of closure, and actions to be taken prior to and during the closure process to control and/or minimize PM and ammonia emissions;

b. Identification of any layer barns at the Croton Location to be converted to belt battery manure handling systems during the next quarter, pursuant to the permits issued by ODA on December 23, 2003 or modified or re-issued thereafter, including the anticipated date of conversion, and actions to be taken prior to and during the conversion process to control and/or minimize PM and ammonia emissions;

c. Particulate Impaction System installation schedule for each Location for the following quarter;

d. Particulate Impaction System visual inspection and dust removal frequency;

e. Particulate Impaction System dust removal and disposal practices;

f. Particulate Impaction System maintenance, repairs, and/or replacement;

g. Impacts of Particulate Impaction System on building ventilation;

h. Any building fan operation data collected by Defendants;

i. Changes in chicken populations over the prior quarter (including the number of barns converted to new variety and/or feed);

j. Use of additional PM reduction practices, if any, in combination with the Particulate Impaction System; and

k. Dates of use of enzyme additive to control ammonia emissions in each operational layer barn, and the amounts used during each application.

Exhibit 1
General Particulate Impaction System Design

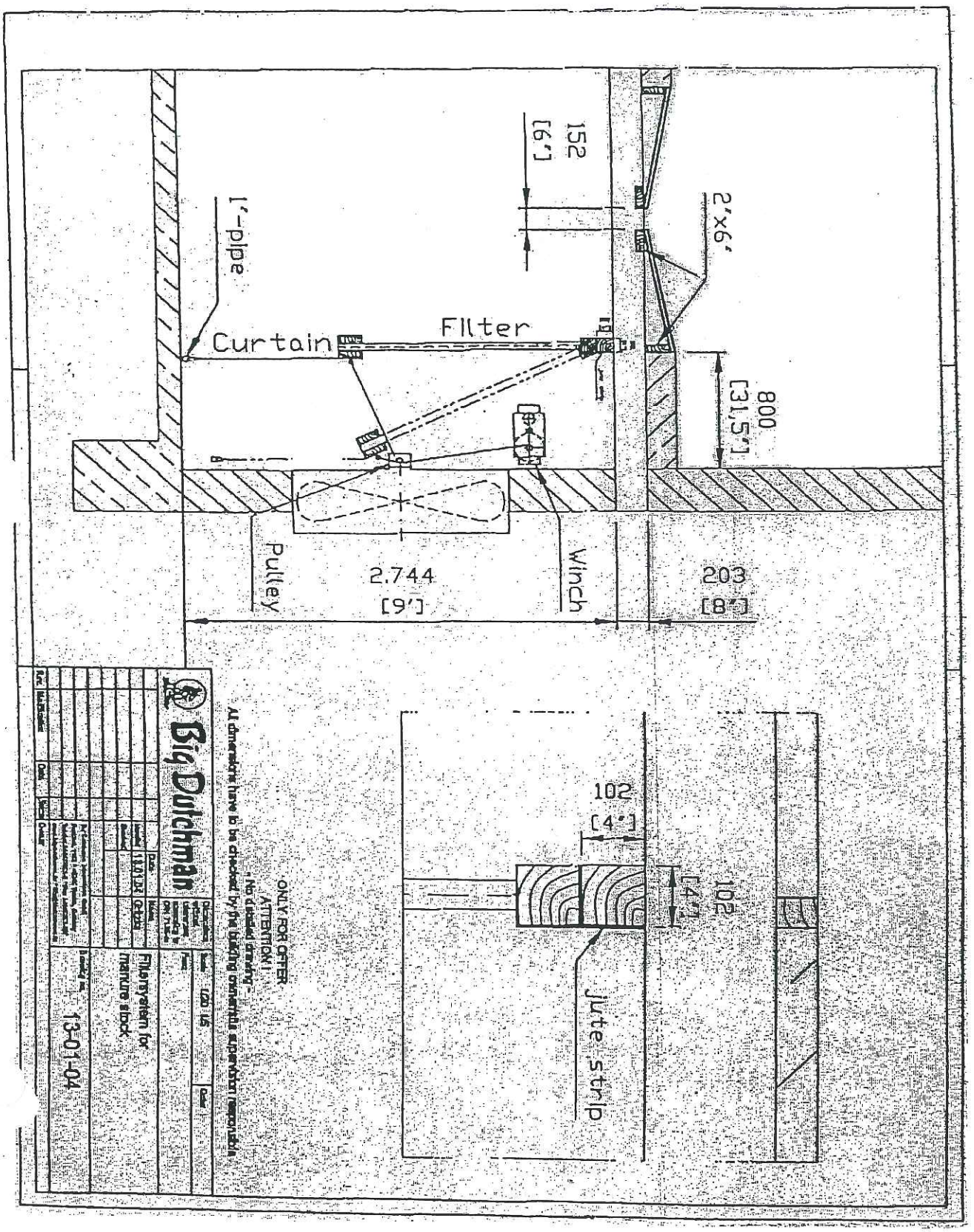

Exhibit 2
General Quality Assurance Project Plan

Project Description

This sampling entails an approach to measure pollutant emissions directly at the source. It will use a dust sampling system to monitor the concentrations of PM and PM_{10} in the exhaust fans and the air inlets of a large caged-hen laying house.

PM and PM_{10} will be sampled using a vacuum pump, 10 critical orifices each and, for PM_{10}, 10 PM_{10} preseparator/cassette filter holder assemblies. The samples will be weighed using standard protocol for gravimetric analysis.

In addition, concentrations of carbon dioxide (CO_2) will be measured using a 0-5,000 ppm photoaccoustic infrared carbon dioxide analyzer. The accuracy of this analyzer will be ±100 ppm. The measurement range will be set at 0-5,000 ppm. The measurement of CO_2 is intended to obtain data that will be useful to monitor the mass (gas) transportation and (spatial and temporal) distribution in the building, to study the indoor air quality and to validate the measurement of PM_{10}.

The airflow rates of selected ventilation fans will be estimated by using a portable fan test chamber. The building ventilation rate will be obtained by monitoring the operation of all the fans and the airflow rate of a single fan, since all the ventilation fans are identical. The PM emission rates will be calculated by multiplying the measured concentrations by the airflow rates.

Finally, concentrations of ammonia will be measured using a chemiluminescence ammonia analyzer or similar instrumentation. The ammonia analyzer's measurement range will be set at representative concentrations (ppm), depending on the levels in the building. It will have a lower detectable limit of 1 ppm. Its precision will be 2.0% or better of full scale and the 0 to 90% response time will be 120 s with 10 s averaging.

Quality Objectives and Criteria for Measurement Data

The overall data quality objective is to generate data of sufficient quality to satisfy the objectives of the project stated above. Data will undergo quality assurance review which will assess, among other things, representativeness, completeness, comparability, and accuracy and precision.

Data representativeness will be assured by the overall sampling design, which includes high frequency and multi-location sampling and a week-long measurement period.

Data completeness will be achieved by assuring that valid data obtained from the measurement system will be no less than 90 percent of the scheduled sampling.

Data comparability will be maintained by consistent use of the same analytical methods used in recent studies in confined swine facilities.

Accuracy and precision for the PM and PM_{10} measurement will be assessed in accordance with the equipment manufacturer's instructions included with required equipment. The filter weighing balance must be calibrated at least annually.

Accuracy and precision for the carbon dioxide measurement will be assessed by challenging the measurement system with zero air and a known concentration of carbon dioxide (CO_2) span gas. Carbon dioxide concentration measurement will be performed in accordance with the equipments instruction manual.

Accuracy and precision of the NH_3 measurement will be assessed by challenging the measurement system with zero air, a known concentration of NH_3 span gas (dual-certified by NIST-traceable gravimetric formulation and analysis based on vendor reference standard), and a known concentration of NIST-traceable nitric oxide (NO) span gas. Ammonia concentration measurement will be performed in accordance with the instrument manufacturer's recommendations.

Failure to achieve any of the acceptance criteria will trigger an immediate examination of sampling and/or analytical practices in order to correct the problem before the next round of scheduled sampling.

Documents and Records

Field logs will be maintained and include, but not be limited to, site drawings, daily notes, monitoring notes, results of in-field quality control checks, and any deviations from this quality assurance project plan.

Field test documentation and electronic data storage will be maintained in accordance with the standard operating procedures.

Records resulting from this project will be retained for a period of not less than three years.

MEASUREMENT DATA ACQUISITION

Sampling Process Design (Experimental Design)

Measurements of ammonia and CO_2 will be conducted sequentially at multiple locations to obtain gas emission rates, and temporal and spatial variations of gas concentrations. A gas sampling system will be constructed to allow automatic sequential air sampling from three groups of sampling locations. Teflon tubes (1/4" ID) will be used to transport air from nine exhaust locations (Group 1 - four fans on the west side of the building and Group 2 - five fans on the east side of the building) and four air inlets (Group 3) in the ceiling. A filter will be installed at the opening head of each gas sampling line at the sampling location to remove particulate. The selected gas stream will pass through Teflon sampling manifolds.

A vacuum pump (P1) will pull air from the sampling locations to the concentration analyzers. The sample gas stream from each group will be measured continuously for 10 minutes before switching to another sampling group. The first nine minutes of gas concentration data will be ignored to allow the measurement system to equilibrate. The measurement of the three groups of sampling locations will need 30 minutes. Thus, 48 CO_2 measurements will be obtained daily for each group. These data with 30 minute time resolution will allow analyzing the temporal variations of the gas concentrations. Gas emission rates will be calculated using concentration differences between groups (Group 1 vs Group 3 and Group 2 vs. Group 3) combined with ventilation rate.

A second set of gas analyzers will be set up to focus on spatial variations of gas concentrations. The measurement will be divided into two periods. At the first period, it will be measuring each of the 12 sampling locations (excluding one fan in Group 2) measured by the first set of analyzers. The 12 locations will be measured sequentially. Measurement at each location will take 10 minutes and it will need two hours to measure all locations. Thus, 12 concentration readings will be obtained daily. The data will be used to study the concentration variations within each group of sampling locations to validate the selection of these locations.

At the second period, the second set of gas analyzers will be measuring only two locations to determine both spatial and temporal variations. Some of these locations will be at the floor to determine the portion of air pollutants produced by the birds on the second floor as compared to the manure stored on the first floor. The selection of the two locations will be determined upon the completion of the first measurement period and based on the data at hand at that time.

PM and PM_{10} will be sampled once every day for 24 hours at eight exhaust fans, side by side with continuous emissions monitoring system(CEMS) sampling points, and one incoming air location using a nine-port manifold connected to a vacuum pump system. The sampling location will be 10 centimeters adjacent to the CEMS sampling location to ensure free flow of air around the sampling head. A fractionating inlet will be utilized at each point.

Twelve semiconductor sensors will be used to measure temperatures at the gas and dust sampling locations (eight exhaust fans and four air inlets). The sensors will be calibrated prior to use and recalibrated at the conclusion of the test. An electronic relative humidity/temperature probe will monitor outdoor relative humidity and air temperature. Another relative humidity/ temperature probe will be used to monitor indoor relative humidity and an additional air temperature at the center of the manure pit. Building static pressure will be monitored at four locations representing east, west, north and south sides of the building.

The wall fans will be tested with a portable fan test chamber to determine their actual airflow rates at different static pressures. Their operation will be monitored with voltage-sensing relays.

Sample Handling and Custody

PM and PM_{10} filter samples will be taken using 47-mm filter cassettes. The filters will be equilibrated at a set temperature (20±1°C) and relative humidity (50±5%) for at least 24 hours prior to pre-and post-weighing, and weighed using standard protocol for gravimetric analysis.

Samples will be labeled and logged in on standard field data sheets at the time of placing and collecting the samples. The samples will then be transferred directly to the laboratory for weighing or stored for later weighing. Information on the data sheets includes date, time of day, personnel, sampling location, airflow rate, sampling start time, sampling stop time, temperature, any unusual conditions or observations, weight of pre-sampling, weight of post-sampling, and PM concentration. All field data will be recorded and checked for completeness and accuracy before leaving the site. Laboratory data sheets will be prepared and signed as samples are processed. The samples remain in the custody of sampling personnel at all times precluding the need for chain of custody documentation.

All other measurement will be taken in-situ in the buildings and no sample custody will be involved.

Analytical Methods

Approved analytical methods will be used in all experiments. Analytical data will be generated in accordance with the standard operating procedures and instrument manufacturer's manuals.

The sampling team will undertake corrective actions for gas and particulate concentration measurement. Corrective action will be necessitated by any deviation from published procedure or instruction manual direction.

Quality Control

Quality assurance and quality control at all facilities includes the use of properly maintained and reliable instrumentation, approved analytical methodologies and standard operating procedures, external validation of data, well-trained analysts, electrical backups, audits, and documentation. When appropriate, published EPA analytical methodologies will be used. Logs will be maintained for each instrument.

Quality control procedures will include the following:

- Calibrations of ammonia and carbon dioxide analyzers will be conducted regularly.
- On-line results of all the continuous measurement variables will be displayed on a PC screen. Sampling personnel will check the on-line display daily by either remote or on-site access.
- Logged data files in the PC in the previous day will be checked the next business day to find and correct any problem with the system.
- Experienced analysts will run all equipment.
- Internal performance and system audits will be performed.

- A measurement of inlet clean air will be included as a field blank for gas concentration measurement.
- An uninterrupted power system will be used to prevent equipment damage in case of power failure.

Instrument/Equipment Calibration and Frequency

Gas concentration analyzers will be calibrated in accordance with the manufacturer's instruction manuals. Certifications for calibration gases will include two analyses at least one week apart. The certified calibration gases will consist of zero air and a representative upper limit concentration for ammonia gases as well as carbon dioxide in nitrogen. Calibrations of ammonia and carbon dioxide analyzers will be conducted weekly.

Gas airflows of the PM and PM_{10} samplers will be calibrated using precision airflow calibrators (0.020-6 Lpm and 2-30 Lpm flow rates). Calibration frequency will be determined in accordance with the manufacturer's instructional manual.

Calibration records will be maintained in accordance with the applicable standard operating procedure or instrument manufacturer's operation manuals.

Inspection/Acceptance of Supplies and Consumables

All atmospheric gaseous measurement will be traceable to dual-analyzed and certified standards from a reputable supplier. No additional requirements are applicable.

Data Management

Instrumental data will be collected and stored in accordance with the applicable standard operating procedure or instrument manufacturer's operations manual. Raw data will be saved as tab delimited ASCII files.

All temperature and relative humidity data will be electronically stored and compiled in a manner that will facilitate computation of 30-minute and daily averages.

Sampling personnel will keep the following logs: daily notes including site drawings, deviations from QA, and other notations. The logs will contain measurement activities and monitoring notes. A third party witness will sign and date all log notes. All notes will be contained in a centralized notebook. All necessary records for additional monitoring instruments will also be kept.

A large portion of the data will also be maintained electronically in the form of spreadsheets. Electronic raw data and computer records will be backed-up weekly on a network drive (backed-up daily) with copies stored at the laboratory. In addition to computer storage, raw tables or graphs will be printed out and stored in a loose-leaf notebook in the laboratory.

Assessments and Response Actions

Sampling personnel will be responsible for evaluating the data and assessing the data in accordance with validation procedures. They will assess the data for their representativeness, completeness, comparability, and accuracy and precision as outlined in a previous section.

Sampling personnel will also be responsible for preparing the portions of a report concerning the results from their respective instrumentation. They will integrate the data and jointly prepare a draft measurement report for review.

Reports to be Submitted

The draft and final project reports will contain all valid monitoring data expressed as 30-minute and daily values. The report will incorporate graphical representations of the location of all measurements taken. The report will also contain the numerical and qualitative results of all quality control measures on all measurement systems and will compare them to the applicable acceptance criteria. In the event that data must be invalidated, the reason for data invalidation shall be identified with the resultant corrective action.

Review drafts and final reports will be distributed to, at least:

Kevin Vuilleumier	U.S. EPA, R5
Cary Secrest	U.S. EPA, HQ OECA
Isaac Robinson	OEPA, CDO
Don Waltermeyer	OEPA, NWDO

Data Review, Verification, and Validation

All data generated under this QAPP will be reviewed and validated by sampling personnel. Data quality assessment will be performed by sampling personnel.

Raw data review will be done within two business days after the data were recorded from measurement. Verification of the measurement data will be done during initial processing each week using appropriate software.

Validation and Verification Methods

Data will be validated and verified by comparison with instrumental performance parameters as identified in the applicable standard operating procedure or instrument operation manual. Data validation and verification will also be performed by checking the recorded test activity and change of the building environment. Data will be evaluated for compliance with stated objectives for representativeness, precision, and accuracy. However, the evaluation process used to find and correct an error may not be defined in this QAPP because not all possible errors and corrections can be anticipated.

Reconciliation with User Requirements

Any data not meeting the data quality objectives as outlined above will be flagged as invalid for comparison to screening level criteria.

Exhibit 3
Determination of Annual Emissions

This Exhibit provides a summary of the methodology proposed for determining annual emissions from the Mt. Victory Location and the Croton Location. The data obtained at the Mt. Victory Location will also be extrapolated to determine annual emissions from the Marseilles Location. The methodology provided below is only a representative summary. This summary may be modified based on any final proposal submitted under Attachment A. Any modifications are subject to EPA approval.

Emission data will be collected over a period of six months between August 1, 2004 and February 1, 2005 at two layer barns at the Mt. Victory Location, one with the Particulate Impaction System and/or any other approved PM control system and the enzyme additive system and one without any PM control system and without the enzyme additive system. Bird inventories should remain similar between the control (with Particulate Impaction System and/or any other approved PM control system and enzyme additive system) and uncontrolled (without any PM control system and without enzyme additive system) barns to minimize livestock-related variables. Manure pH, moisture, and any other relevant characteristics will be measured and evaluated for representativeness.

Emission data will also be collected over a period of six months between August 1, 2004 and February 1, 2005 at one layer barn at the Croton Location. This Croton Location barn will be fully converted to a belt battery manure handling system that is in place and operating as well as the new bird variety and feed as provided in the approved PM Plan for the Croton Location. Manure pH, moisture, and any other relevant characteristics will be measured and evaluated for representativeness.

Emission data will be collected in accordance with the secondary method set forth in Exhibit 2 and used to calculate daily average PM and ammonia emission rates. Daily average emission rates will be based on the sum of all emissions calculated for that day. Daily average temperature will be calculated by summing all temperatures for that day obtained by direct readings. Regression analysis (using standard statistical and regression analysis methodology) will then be performed on the daily average emission rates and daily average temperatures calculated above. This analysis will provide the basis for a regression model which shows a relationship between ambient temperature and emission rates for each pollutant. Using the

daily mean temperature determined from historical data recorded at Mansfield, Ohio, the sum of the daily emission rates will provide the annual emissions estimate.

With a sampling period between August 1, 2004 and February 1, 2005 the average monthly temperature of the six month sampling period may be near the expected average monthly temperature of a typical year. Some differences between the actual and historical temperatures are expected, and adjustments will be made using the temperature-emissions correlation.

Fan Curves will be calculated and used to determine airflow based on the length of time fans are operating on a per minute basis. Operation will be monitored through static pressure and recording of each fan operating that minute. Total ventilation for which the fan is capable will be determined using a portable test chamber unit, as set out in Attachment A. The PM and ammonia emission rates shall be calculated, as follows.

Air $Flows_{fan\text{-}minute}$ = (fan operating time in percentage of 60-sec operation) X (fan airflow based on derated fan curve and measured static pressure)

PM (NH_3) ER_{minute} = (Average PM (NH_3) $Concentration_{minute}$ lb/dscf) X (summed air $flow_{fan\text{-}minute}$ dscf/minute of each fan)

PM (NH_3) ER_{daily} = Summation of PM (NH_3) ER_{minute}

PM (NH_3) $ER_{monthly}$ = Average PM ER_{daily}

Average $temperature_{daily}$ = summation of $temperature_{minute}$

PM (NH_3) ER_{daily} and average $temperature_{daily}$ recorded at the measurement site will be incorporated in a regression model to extrapolate emissions based on the mean daily temperatures. The model will assume that emission rate is dependent on ambient temperature. A non-linear relationship between temperature and emission rate may exist, thus the sum of the mean daily temperature is preferred to maximize the temporal resolution of the regression model.

ECO
Environmental Filtration

Media Specification

ECOSPUN™ HF

Composition: 100% Spunbond Polyester

Basis Weight:	*7.37 oz/yd²*
Thickness:	*0.038 inches*
Tensile Strength (MD):	*95 lbs*
Air Permeability @ ½" wg (Frazer Method):	*50 cfm*
Max Operating Temp (continuous):	*325 ° F*
Efficiency:	*99% @ 3-5 µm*

All values are averages
Specifications are subject to change without notice

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Electrostatic Space Charge System for Air Quality Improvement in Broiler Production Houses

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Abstract. Reducing airborne dust in enclosed animal housing has been shown to result in corresponding reductions in airborne bacteria, ammonia and odor. Technologies that have been shown to be effective for reducing airborne dust in animal areas include misting with an oil spray, water mists, extra ventilation, and electrostatic space charge systems. Increasing pressure from environmental groups to reduce PM-10 and ammonia emissions from animal housing has led to considerable interest by the poultry and swine industries for practical systems to reduce these air pollutants. This presentation will describe an electrostatic space charge system (ESCS) that was designed to reduce airborne dust and ammonia emissions from a commercial broiler production house. The ESCS for this application was based on patented technology that was developed over a period of several years to reduce airborne dust and pathogens and proven in numerous research trials in poultry hatchers and growout areas. A recently completed study in a small broiler breeder house showed the ESCS reduced airborne dust by an average of 60%, ammonia by 56%, total bacteria by 76%, and it reduced the number of Salmonella infected broilers produced from eggs gathered in the study. Preliminary results of the present study in a broiler production house during the cool months of November through April indicate the ESCS reduced airborne dust by an average of 55% and ammonia by an average of 8% in a house with built-up litter. Later studies will include litter that is fresh or not over a few months old which is expected to improve the effectiveness of the ESCS for ammonia removal since a higher percentage of the ammonia produced would be on the dust that is removed.

Keywords. Electrostatic, air quality, poultry, dust, ammonia

Introduction

Air quality relating to poultry production housing has been a major concern for years – primarily due to the close proximity of many poultry houses to residential and commercial areas. Of particular concern are particulate matter, ammonia, and odor. Producers on the other hand are primarily concerned with ammonia which can affect bird health and airborne disease transmission which can be greatly affected by airborne dust which carries microorganisms. While there is considerable research directed at defining the problem and scope of emissions, it is equally important that practical and economical control measures are examined.

Dust concentrations for poultry houses have been reported to vary from 0.02 to 81.33 mg/m3 for inhalable dust and from 0.01 to 6.5 mg/m3 for respirable dust (Ellen et al., 2000). Sources of dust that have been identified in broiler houses include feed, down feathers, excrements, microorganisms, and crystalline dust. There are several factors that are suggested to affect dust levels in poultry houses which include animal activity, animal density and moisture conditions (Ellen et al., 2000). Dust can contain large numbers of microorganisms that could have potential impact on human and bird health. Several studies have focused on dust levels in various animal housing and characterization of the dust components which include microorganisms, endotoxins (Wathes et al., 1997), and odors (Pearson and Sharples, 1995; Simpson et al., 1999).

Several approaches can be used to reduce dust concentration in animal housing areas. These include adding fat to feed, fogging with water, fogging with an oil-based spray, regular washing, ionization, electrostatic filtration, vacuum cleaning, filtration and recirculation, cleaning with wet scrubbers, purge ventilation, deep litter, and optimization of air inlet position. Reductions reported with these approaches ranged from 15% for weekly washing of pigs and floors to 23% with ionizers to 76% with a rapeseed oil spray (CIGR, 1994). Other reports of ionizer efficiency have ranged from 31% (Czarick *et al.*, 1985) to 67% (Veenhuizen and Bundy, 1990) to 92% (Mitchell, 2002b). Other studies (Madelin and Wathes, 1988; Carpenter *et al.*, 1986) have shown that reducing airborne dust levels by 50% can reduce airborne bacteria by 100 fold or more.

The Electrostatic Space Charge System (ESCS) described by Mitchell and Stone, 2000 has been shown to significantly improve air quality by reducing airborne pathogens and disease transmission in poultry. In recent, related broiler-breeder-house studies (Richardson *et al.*, 2003; Mitchell et al. 2002a) the ESCS technology was used to reduce airborne pathogens and bird to bird or bird to egg transmission by reducing airborne dust which carries the pathogens resulting in an average of 60% reduction of airborne dust, 56% reduction in ammonia and 76% reduction in airborne bacteria. The ESCS uses a simple, environmentally friendly process which is harmless to birds and humans to reduce airborne dust and associated microorganisms by charging the dust in an enclosed space and collecting it on special grounded collector plates or on the floor or walls of a room. The ESCS system has been shown to have effectiveness comparable to a 95% media filter for removing dust in laboratory experiments in hatching cabinets and equal or better effectiveness for removing airborne bacteria and Salmonella (Mitchell *et al.*, 2002b). Similar results were obtained with the ESCS in three field studies in commercial hatchers (Mitchell and Waltman, 2002). Salmonella transmission experiments with chicks exposed to Salmonella during hatching have shown that ESCS treatment of the hatching cabinet reduced cecal contamination at 7 days of age by an average of 3.4 logs (Mitchell et al.,

2002b). Airborne *Salmonella enteritidis* (SE) experiments conducted in controlled environment transmission cabinets with and without an ESCS showed chicks exposed to a naturally generated aerosol of SE beginning at one week of age had no cecal contamination 8 days later (Gast, Mitchell and Holt, 1999). Experiments conducted in a 15 x 22 ft (3300 ft^3) isolation room with SE infected caged layers showed reductions of airborne SE of approximately 95% over a test period of 10 days when the room was treated with the ESCS (Holt, Mitchell and Gast, 1999). Another effect of the space charge -- besides reducing dust and microorganisms which are already airborne, is to keep surface dust near its source. For example, loose dust on the floor of a treated room would tend not to become airborne because as soon as it left the floor it would be charged and re-attracted to the floor. It is also known that long term exposure to airborne dust and pathogens in poultry houses is associated with chronic respiratory problems for workers, therefore, an additional benefit of reducing airborne dust and pathogens in poultry houses would be the improvement of air quality for workers.

There is a trend within the poultry industry for tighter house design and less frequent litter removal from poultry houses. These two factors have the potential to increase the ammonia concentration within poultry production facilities. The National Institute of Occupational Safety and Health (NIOSH) has established eight-hour exposure levels for humans at 25 ppm and the Occupational Safety and Health Administration (OSHA) has established it at 50 ppm. The level that is considered an immediate danger to life (IDLH) is 300 ppm. Symptoms of NH_3 poisoning in poultry include coughing, snicking, conjunctivitis, and dyspnea (Carlile, 1984). A general rule of thumb for the poultry industry has been to keep NH_3 below 25 ppm. However, prolonged exposure to even low levels of NH_3 could be detrimental to bird health and performance as poultry remain in this environment throughout the production period.

Control of NH_3 has been largely accomplished through ventilation. However, as fuel costs increase particularly during the winter months, poultry growers tend to minimum ventilate to reduce heating expenses. Another trend is less frequent complete house clean out resulting in birds being grown on built-up litter with the cake removed and the remaining litter top dressed with new bedding material. The combination of these trends can be detrimental to air quality in broiler houses if dust and NH_3 levels are not controlled, particularly during the brooding phase.

As the use of built up litter has increased, litter treatments have been developed to help control ammonia release from the litter pack. Litter treatments that are used by the industry include phosphoric acid, sodium bisulfate (PLT), ferrous sulfate, calcium phosphate and aluminum sulfate (alum). These treatments have been used with varying levels of success.

The primary goals of this research are to determine whether a practical electrostatic space charge system (ESCS) system can be developed and operated in a commercial broiler production house, and to evaluate the effectiveness of this technology for improving air quality in the house and for reducing emissions of dust and ammonia.

Safety Emphasis

The ESCS technology has been shown to reduce potentially harmful air pollutants such as dust, ammonia and pathogens in poultry areas resulting in healthier birds and providing a healthier environment for researchers and animal caretakers exposed to these areas. Successful application of this technology in broiler production houses would have the potential of improving disease

immunity for broilers by reducing airborne dust, ammonia, and pathogens and it would reduce the respiratory hazards for animal caretakers and others who frequent the houses. The ESCS system has no harmful adverse effects.

Materials and Methods

ESCS Design and Layout: A custom designed ESCS system was designed and installed in a 500 ft x 40 ft commercial broiler house (Fig. 1).

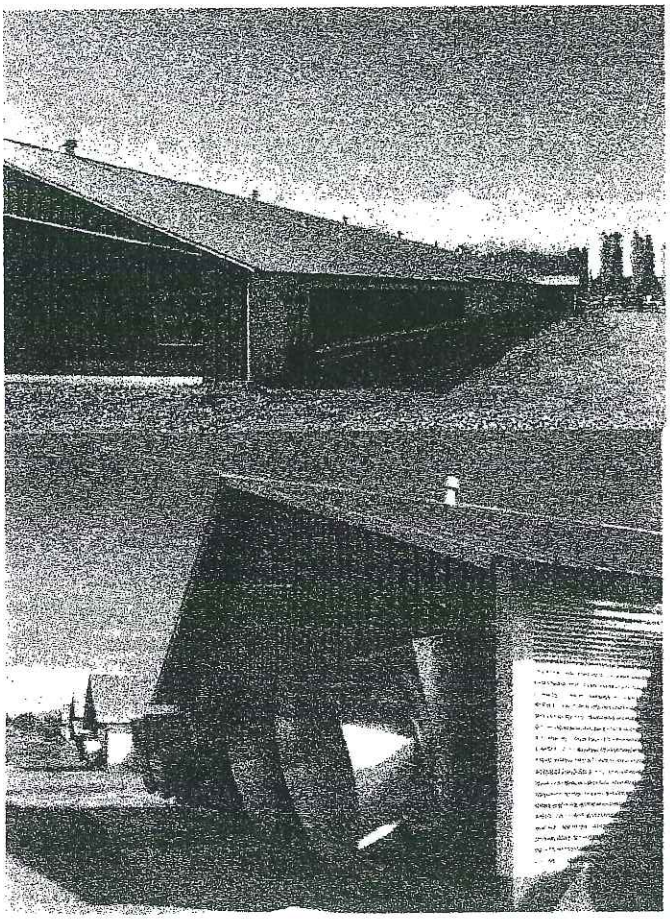

Figure 1. Broiler production house: Top is evaporative cooler end, bottom is tunnel fan end.

The system consisted of two rows of inline, negative air ionization units running most of the length of the house (Fig. 2). Separate high voltage, -30 kVdc, 2 mA capacity power supplies were used to supply -25 kVdc to the ion generators in each half of the house. The inline generators consisted of a conductive tube with sharp pointed electrodes at 1 in intervals pointing toward the litter. The tubing was attached to a grounded 1 in black iron pipe with Teflon insulators at 2 ft intervals. The iron pipe was located 3 in above the discharge points to provide a close proximity ground plane and to increase the negative air ion output (Mitchell and Stone, 2000).

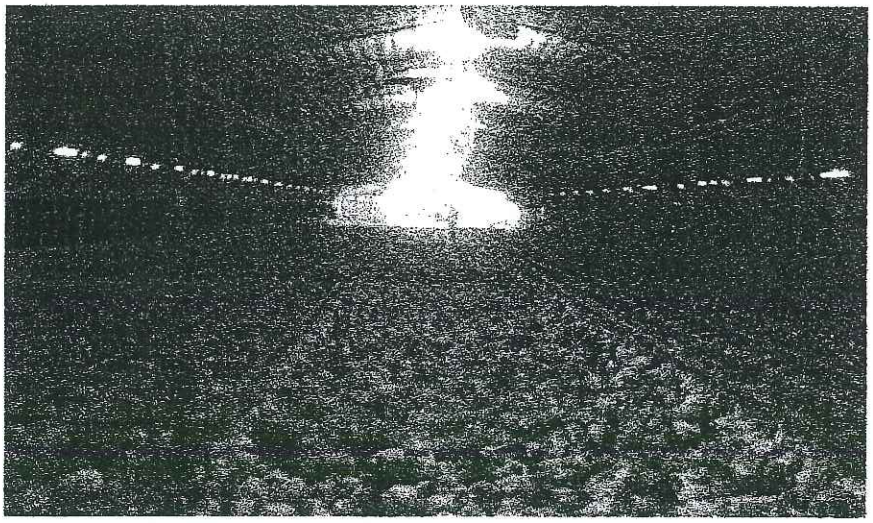

Figure 2. Inline ionization units can be seen hanging from the ceiling on either side of the center of the house.

The inline generators were centered between the first row of waterers and the first row of feeders such that they were about 12 ft. from the sidewalls. Two hundred ft of inline generator were installed on each side such that it was centered between the center curtain (used for half house brooding) and the evaporative cooling pads on one end and between the center curtain and the tunnel ventilating fans on the other end. Winches were used to raise the iron ground plane pipe such that the discharge points were 7 ft above the litter (sufficiently high to walk under, but as low as possible to concentrate the charge near the birds where dust is being generated). An identical house adjacent to the treatment house was instrumented but operated as a control house without ionization.

Dust, Ammonia, Temperature, and Humidity Measurements: Dust, ammonia, temperature and relative humidity measurements were made at approximately 4 ft above the litter in the center of the house at different locations in the house. During the brooding period, measurements were made in the center of the brooding section. After brooding, when birds occupied the entire house, measurements were made either at the center of the downwind half of the house or just before the tunnel fan section. Dust and ammonia were typically measured at 10 min intervals and temperature and relative humidity were typically measured at 1 min intervals. Dust measurements were made with TSI DustTrak instruments (0.001 mg/m^3 to 100 mg/m^3) which had their own data loggers. Ammonia was measured with Draeger Polytron 1 electrochemical sensors (0 – 100 ppm) using Hobo data loggers to record the values. Temperature and relative humidity were recorded with Hobo data loggers. The ammonia sensors were calibrated with lab NH3 at 50 or 56 ppm each week.

Ventilation: Special efforts were taken to assure the treatment house and the control house were operated at the same temperature and ventilation rate. A separate central logging system used at the farm recorded operation of each fan along with temperatures throughout the house.

Results and Discussion

Preliminary results of the production house study for three flocks during the cool months of November through April indicate the ESCS reduced airborne dust by an average of 55%. This is comparable to the 60% reduction obtained in an earlier study in a small scale broiler breeder house (Mitchell et al., 2002a). Dust concentrations were generally low and ranged from 0.2 mg/m^3 to 1.9 mg/m^3. Charged dust could often be seen extending from the grounded water and feeder support cables in the treatment house (Fig. 3).

Figure 3. Charged dust extending from a grounded feeder support cable in the treatment house.

Ammonia was reduced only by an average of 8% in the house with built-up litter. This minimal reduction of ammonia is much lower than the 56% average reduction obtained in the earlier study in a small scale broiler breeder house (Mitchell et al., 2002a). Ammonia levels ranged from an average of 26 ppm to 76 ppm.

Results of a recent flock during the brooding period are shown in Figs. 4-6. Dust levels in the treatment house (PH7) were consistently lower than in the control house (PH8) and averaged 48% lower for this week (Fig. 4). Peak dust levels in the control house in the latter part of the week were noticeably higher than those in the treatment house.

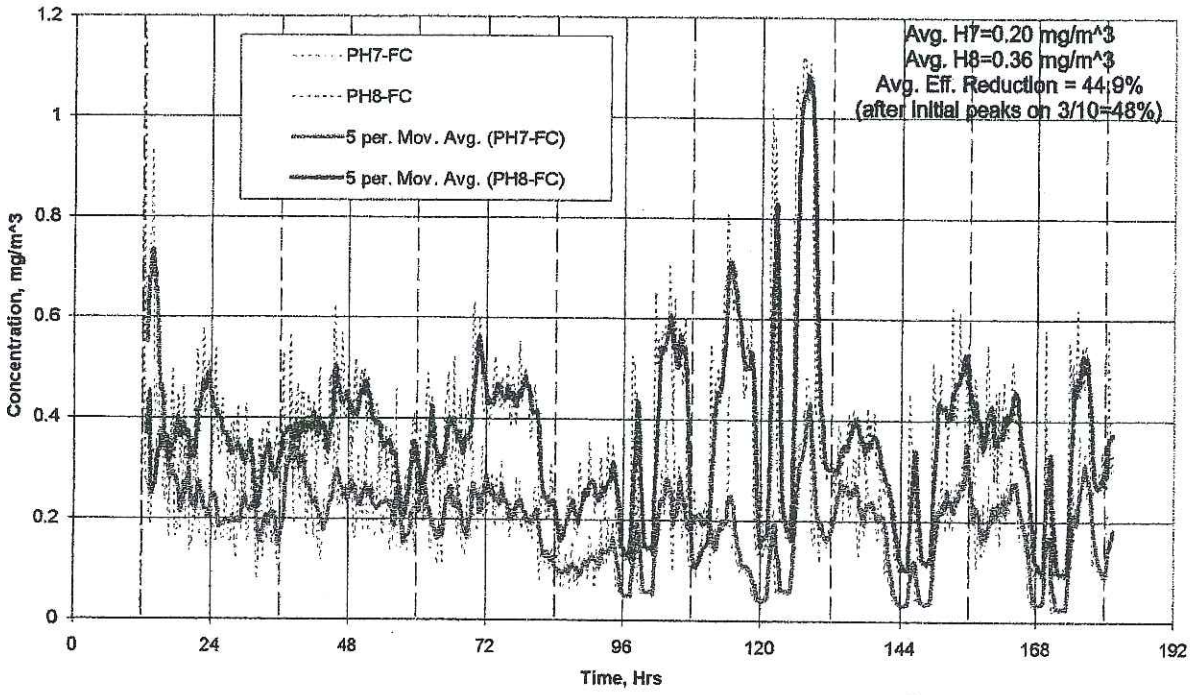

Figure 4. Dust concentration during approximately 1-wk (3-10 to 3-17-03) of a brooding period (Flock 5). Green curve is treatment, red is control.

Ammonia levels in the treatment house averaged 12% lower in the treatment house than in the control house with most of the reduction being during the evening hours when ammonia levels were highest (Fig. 5).

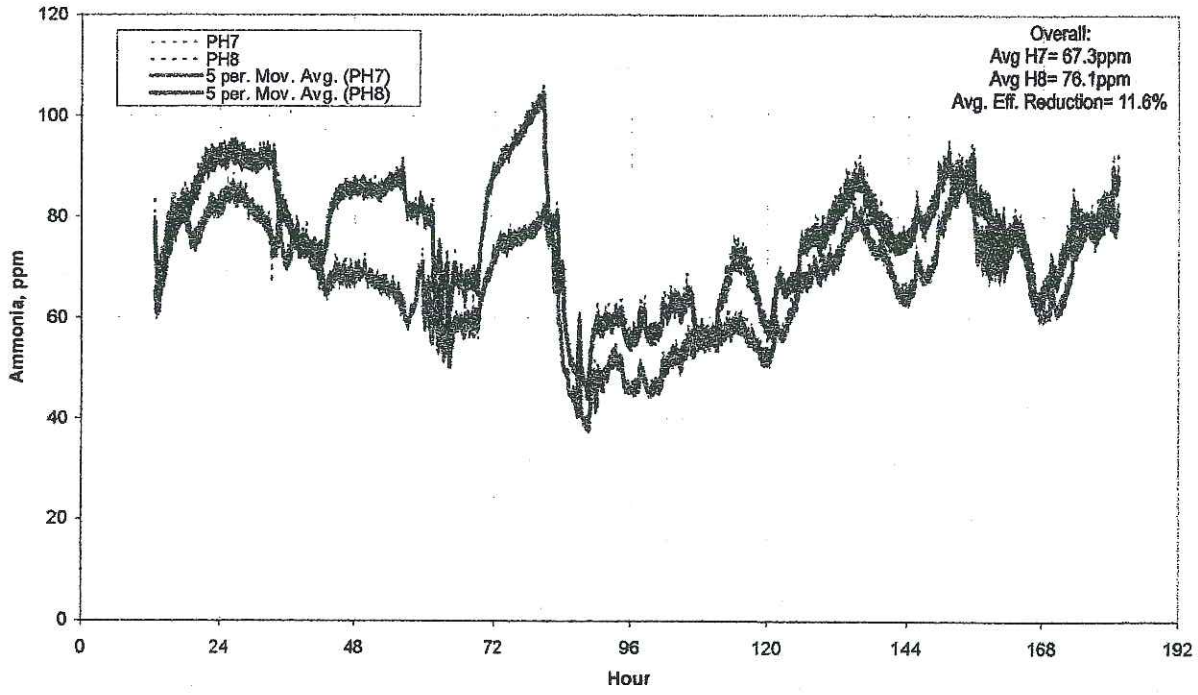

Figure 5. Average ammonia levels starting on day 5 for approximately one week (3-10 to 3-17-03) during the brooding period (Flock 5). Green curve is treatment house, red is control.

Temperatures and humidity in the two houses tracked fairly closely (Fig. 6).

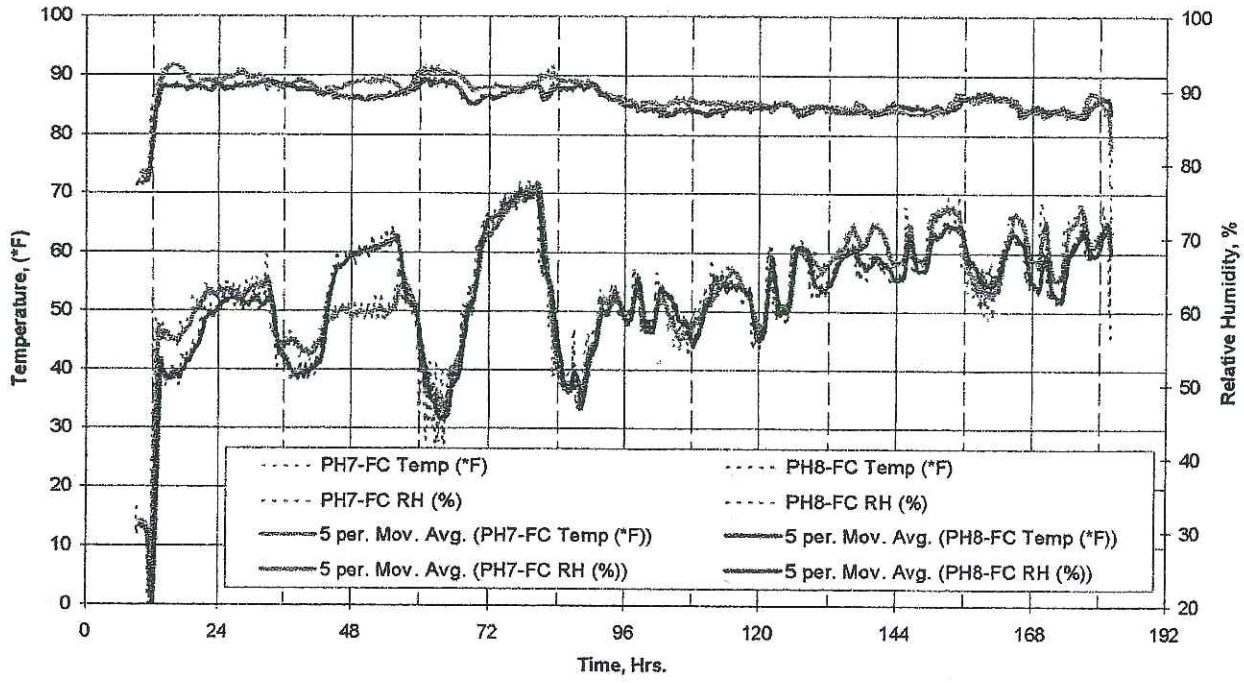

Figure 6. Temperature and humidity curves for approximately one week (3-10 to 3-17-03) during brooding period (Flock 5). Treatment house is PH7 and control house is PH8.

Although it is known that a certain amount of ammonia and odors are absorbed in poultry house dust, it is not known what percentage of total ammonia production this represents. An assumption in the present study was that reduction of airborne dust by the ESCS would result in a similar reduction in airborne ammonia. In an earlier study with broiler breeders and drier litter, ammonia was reduced by an average of 56% by an ESCS which reduced dust by an average of 60% (Mitchell et al., 2002a). In the present study with built-up litter over one year old, the ESCS has not reduced ammonia more than an average of about 12% in a given week during cool months of November through March. The reasons for this discrepancy are not clear. It may be that the amount of gaseous ammonia compared to the amount bound in the dust for the present study is much greater resulting in less opportunity for overall ammonia reduction by a dust reduction system. It may also be noteworthy that the ammonia levels in the present study have been 2-3 times higher than in the previous study while the dust levels in the present study have been 2-3 times lower than in the previous study – both of which would lend themselves to lower effectiveness of the ESCS in the present study. It should also be noted that PLT treatments on the litter just prior to chick placement were only able to control ammonia below comfortable limits

of 25-35 ppm for 4 to 5 days, and ammonia levels during the last two or three weeks of growout tended to be much higher than this. It remains to be seen if fresh litter or litter that is not over about 3 months old will produce a higher ratio of dust-borne ammonia to gaseous ammonia in the broiler production house and thus lend itself to higher reductions with the ESCS.

. No differences in bird activity have been observed in the form of decreased water consumption, increased mortality, or behavior and no adverse effects of the continuous charge have been observed with the birds in the form of stray voltage or static discharge at the feeder and water lines. The incidence of static discharge to workers has also been minimal and similar to static discharges resulting from walking across a carpet in the wintertime and limited to those times when standing directly under the charger while touching a grounded chicken or piece of equipment.

Dust collection on the ESCS and subsequent need for cleaning has not been a major issue. It appears that cleaning of the equipment every week or two is sufficient to maintain desired high charge levels in the house. Telescoping brushes similar to those used to remove spider webs have been used to clean the ESCS with the power off. Cleaning time of the prototype system is about 1 hr. Designs are being considered which will minimize buildup of dust on the ESCS and reduce the cleaning frequency. Maintenance of the system has been minimal.

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WEEKLY PARTICULATE EMISSION CONTROL OPERATION AND MAINTENANCE LOG

Layer Barn No. ___	Date of Weekly Inspection of Filter Media __/__/_____	Observations/Comments	Need for adjustment, repair, maintenance or replacement (Yes/No)	Nature of Maintenance Needed	Printed Name of person performing inspection/repair Date of Repair	Supervisor Approval

OHIO FRESH EGGS, LLC
WEEKLY PARTICULATE EMISSION CONTROL OPERATION AND MAINTENANCE LOG

Layer Barn No. ___	Date of Weekly Inspection of ESCS __/__/_____	Observations/Comments	Need for adjustment, repair, maintenance or replacement (Yes/No)	Nature of Maintenance Needed	Printed Name of person performing inspection/repair Date of Repair	Supervisor Approval

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